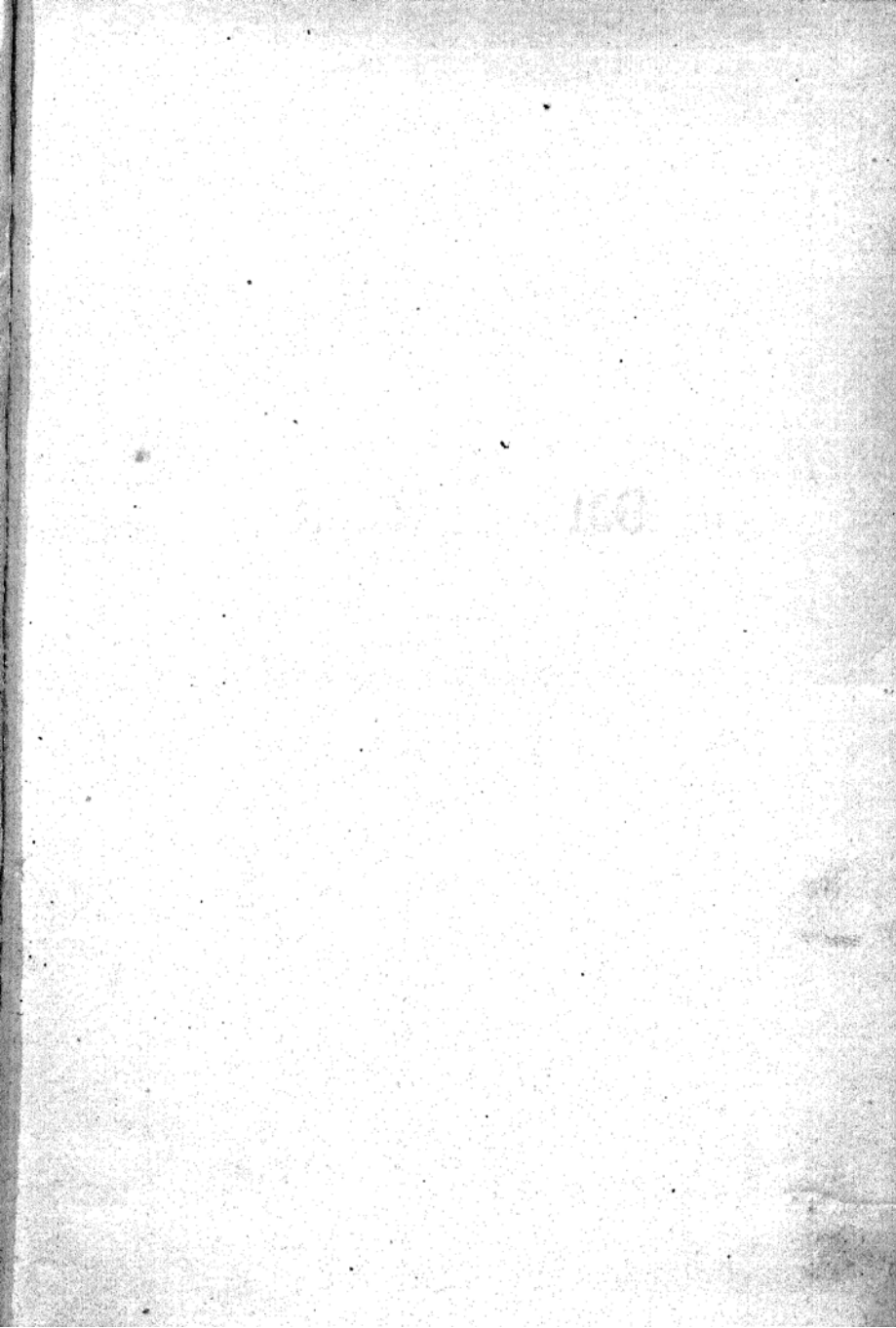


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THE STORY OF CIVILIZATION
THROUGH THE AGES



THE STORY OF CIVILIZATION THROUGH THE AGES

by

CHARLES RICHEL

*Ex-Professor of Physiology in the University
of Paris; Member of the Institute*

Foreword by

SIR OLIVER LODGE

Authorized Translation by

FRED ROTHWELL



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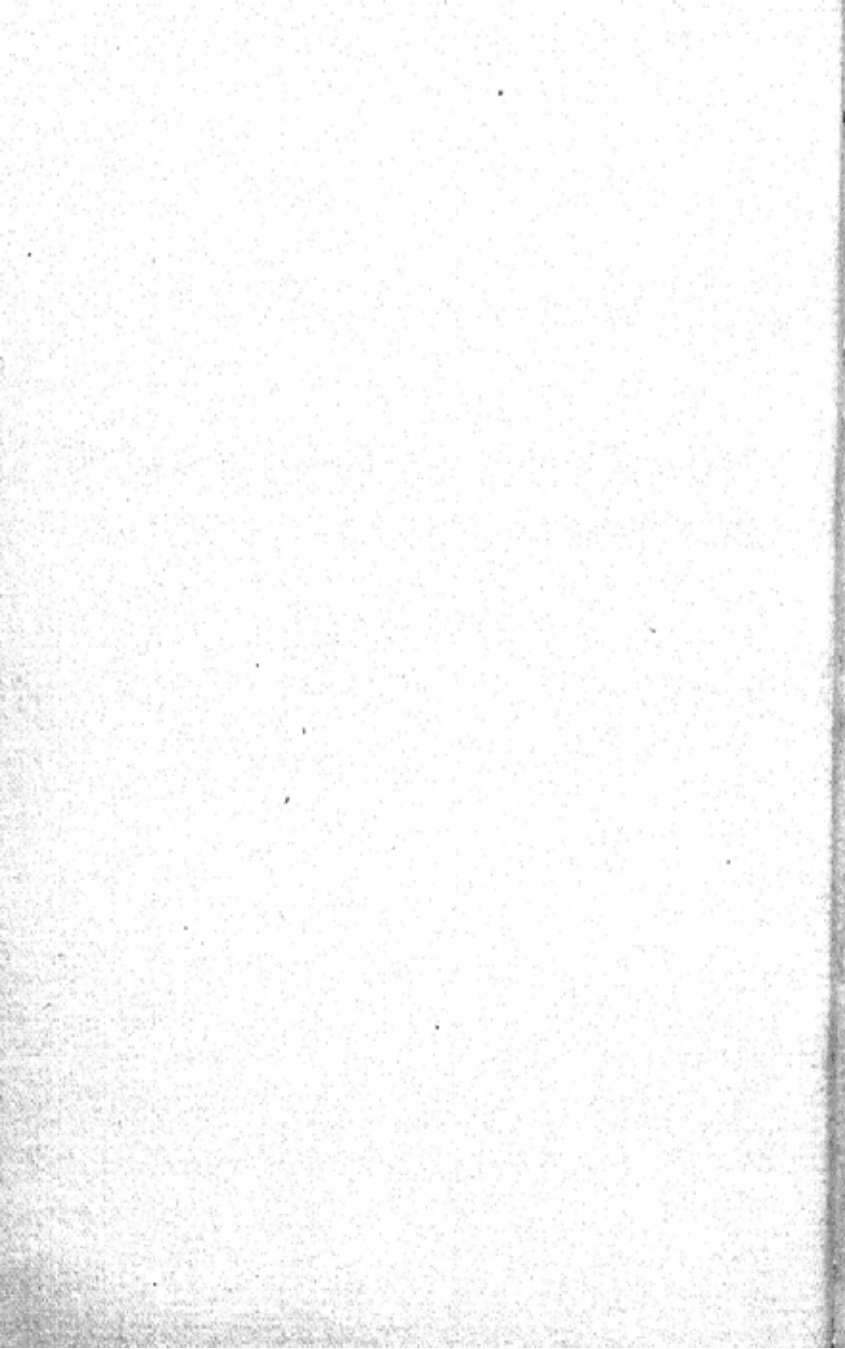
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NOTE

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1941



FOREWORD

My friend Charles Richet, the eminent ex-Professor of Physiology in the University of Paris, and distinguished Member of the Institute, who has been a lifelong friend of peace and good will among the nations, has devoted some of his leisure, since his retirement from the Chair, to taking a comprehensive survey of human history from its early beginnings to the present time. In that survey he has touched upon the history of all countries, and has tried to depict the progress of mankind from barbarism to the present beginnings of civilization. His main object in so doing is to emphasize the destructive and ruinous character of international jealousies and conflicts, and to trace all the real and permanent progress to the intervening periods when the sciences and arts could be peaceably cultivated.

Most histories dwell upon the wars as if they were a prominent feature in the welfare of nations. Richet, on the other hand, regards them as devastating influences, interrupting the main stream of progress and inflicting an amount of suffering quite disproportionate to any national benefits which might be imagined as occurring to the victor. Both victor and vanquished are alike impoverished; and if wars continue civilization will be hopelessly thrown back.

8 THE STORY OF CIVILIZATION

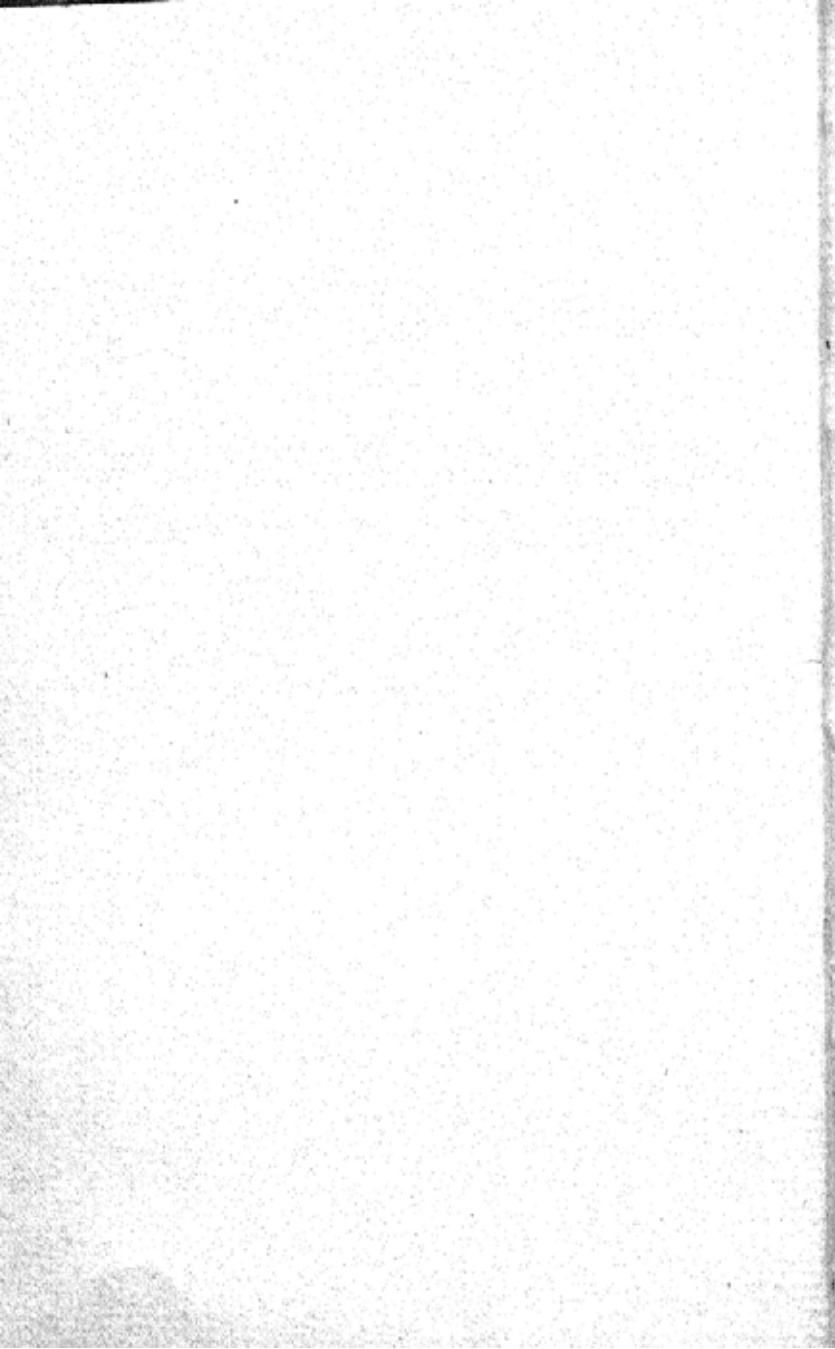
War is the chief obstacle to progress, in his opinion, but there are other forms of international rivalry which are likewise deleterious, typified by the Customs Houses and restrictions on the free interchange of goods. All this laborious and artificial restriction of commerce between nations will, he hopes, ultimately be swept away by the virtual abolition of frontiers—a task already made easier by improvements in locomotion, by facilities of world-wide speech, and especially by the conquest of the air; in which effort Richet himself was one of the pioneers. The Peace Congresses at the Hague, and the beginnings of an International Parliament at Geneva, are surely steps in a direction which will benefit all humanity. Universal arbitration for the peaceful settlement of disputes, enforced when necessary by an international police force, will, it is to be hoped, replace the hopeless and wasteful methods of violence and indiscriminate destruction, such as modern warfare has inevitably become. Scientific discoveries are world-wide, and are for the benefit of all. So also are the works of genius in art and literature and in music. National feelings have their place, but should be subordinate to the welfare of the human family, which is more and more becoming one and indivisible. The world is now too small for anything but friendship between the nations: and the conquests that we are called upon to

make are against the ravages of poverty, disease, and crime. Not in mutual destruction, but in mutual co-operation, lies the hope of the world.

What professed historians will think of Professor Richet's survey I do not know. It can hardly be that he has avoided errors in detail. Even a historian might find this difficult. That a man of science should attempt it is remarkable; but Richet is an enthusiastic and very human man of science, and is able to express himself with an eloquence denied to most of us. That he sometimes stresses the French point of view is only to be expected. But I trust that his book will appear in English dress, and will be found useful, not only for the instruction of the young, but for all those who wish to take a sound and salutary attitude towards the advancement of mankind.

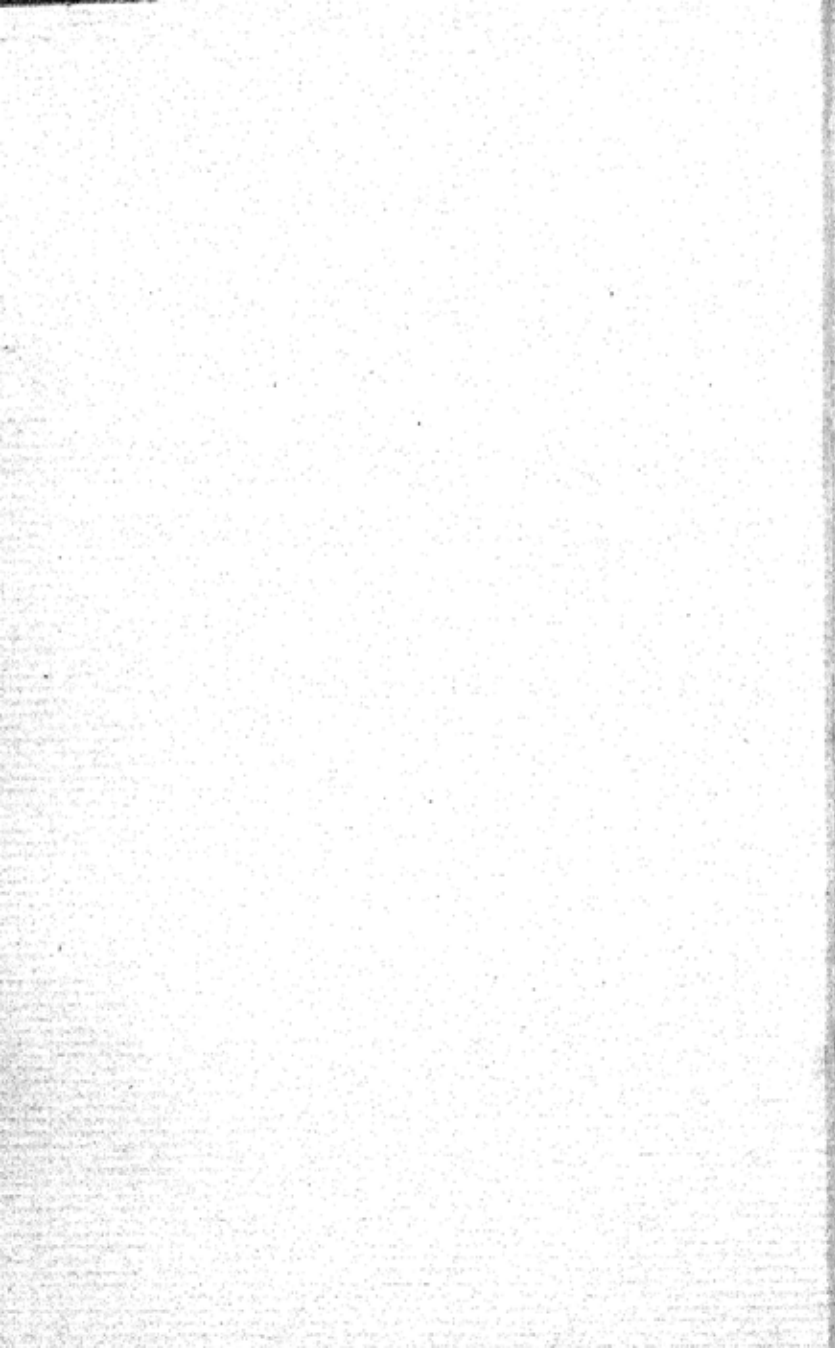
OLIVER LODGE

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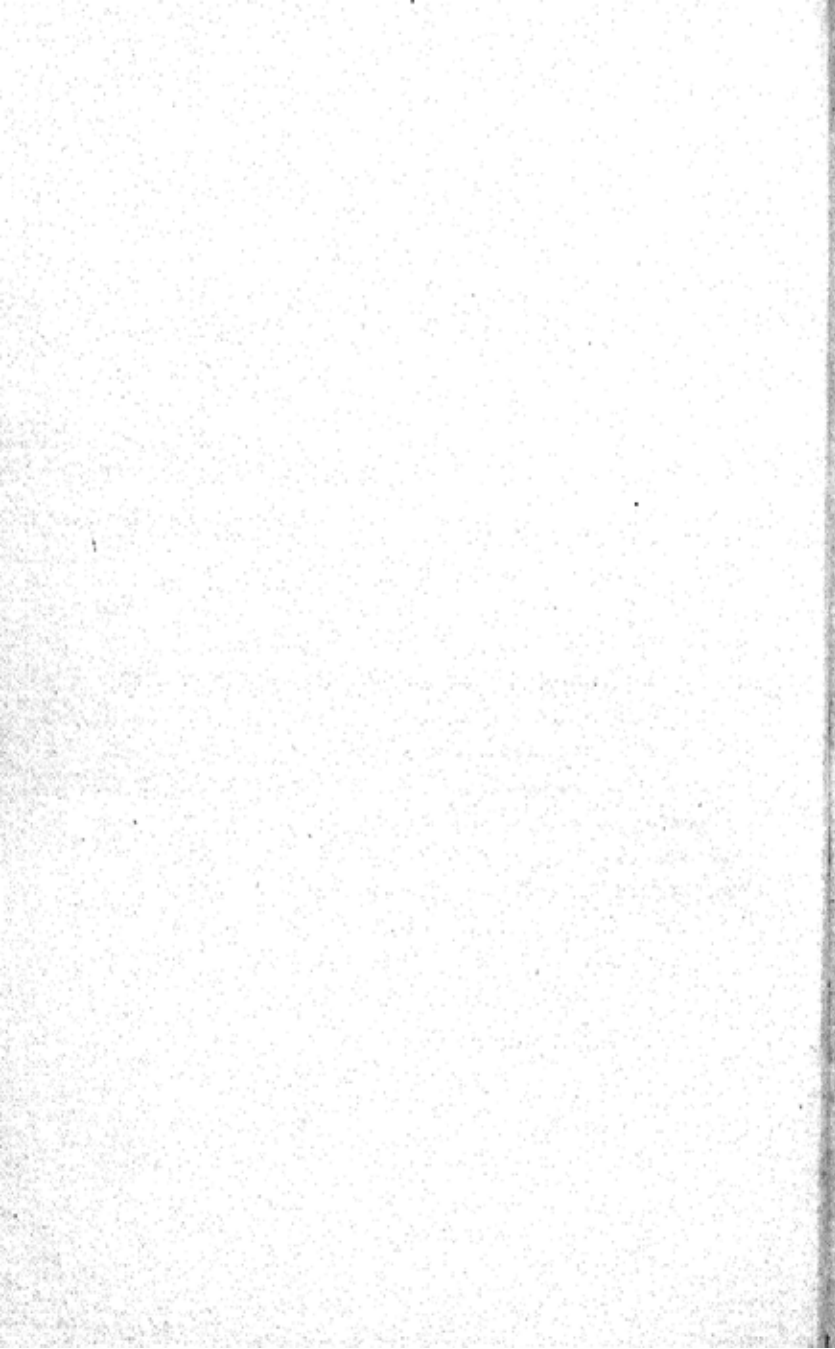


TO THE SCHOOL CHILDREN OF ALL COUNTRIES

MY CHILD,

In your class books you will learn all the details of your country's history. Consequently, it is not the history of your homeland that I aim at teaching you in very condensed form, but rather that of other countries. We must become acquainted with this past, alike tinged with sadness and radiant with glory, for it is the past of the very race of mankind.

Each one of us has two countries which he must love and cherish. In the first place, there is our own homeland, that of the people who speak the same tongue that we do, who are governed by the same laws and have the same ancestors. But we have also a greater homeland, that of humanity itself, and this too claims our love and affection. It is our one common homeland, that of all the human beings scattered over the face of the globe. These men and women are our brothers and sisters; it is our duty to know what they have suffered, what they have accomplished.



THE STORY OF CIVILIZATION THROUGH THE AGES

I

PREHISTORIC TIMES

MANY, many years, even long centuries, had to pass before the human beings scattered over the earth began at last to pick up the rudiments of civilization. All that we know of the earliest ages is obtained from certain stones and flints discovered in caves. These testify to work that was both difficult and skilled: cut stones, polished flints with which the first human beings made for themselves weapons wherewith to struggle against wild beasts and to kill the animals that were to serve as food.

The whole of this old story is obscure and uncertain: it cannot even be regarded as history at all.

II

EGYPT

THE first outlines of true history are given to us by Egypt.

Egypt is a far-stretching and opulent valley watered by the Nile, a mighty river which made possible this fertile land. The climate is mild and salubrious; neither rains nor tempests have destroyed these vestiges of the oldest of civilizations.

For a real civilization existed even in those far-away times of the first dynasty, six thousand years before the Christian era. The Egyptians knew how to make fire and to till the soil with oxen. Possessed of laws, kings, and a religion, they lived at peace in an intelligently cultivated land.

They did not, however, content themselves with simply making bread and watering the soil. They built magnificent monuments and stately temples whose splendour, notwithstanding their antiquity—perhaps for that very reason—still fills us with amaze and wonder. The pyramids, obelisks, and colonnades of Luxor are monuments of the incomparable might of the ancient Egyptians. It is possible to decipher their hieroglyphic writings and to learn the names and exploits of their kings.

Meanwhile, along with the Egyptians in the north-east of Egypt, other and more barbarous civilizations appeared. The Assyrians, the Persians, the Chaldeans, and, still farther east, the Hindus and the Chinese also formed human agglomerations, though we know but little about them, and that little is gleamed from the Vedas and old Chinese writings.

A small though strikingly intelligent people, the Hebrews, destined subsequently to play so great a part in history, had settled in Palestine. Their sacred book, the Bible, is a grim though sublime poem. Yet all these shreds of human culture were somewhat blurred and dim. It is not until we study the history of Greece that we find the true origin of civilization.

III .

GREECE

ANCESTORS of the Greeks were the Phœnicians and the Cretans, already an artistic people and fairly skilled in navigation. Their colonies had peopled the Mediterranean, the cradle of the world.

It was more especially Hellas, however, that proved to be creative.

If Egypt was a gift of the Nile, Greece was a gift of the Mediterranean. She was rich in ports and islands, and her climate was benign. In the twelfth century before Christ, she was inhabited by men whose intelligence was superior to anything that had hitherto manifested itself.

But even in those early days, war was already making its destructive ravages. Thanks to Homer, the greatest of all poets, we are acquainted with the story of the mighty war that was waged between Asia and Europe. Furious and prolonged was the fighting around the city of Troy. The Greeks proved victorious. After ten years of warfare, Troy was destroyed and the Greeks returned in triumph to their own land, leading away their enemies into slavery.

The reason we have retained these memories is that the Greek tongue is still a vital force, a supple and fruitful language upon which the genius of all European tongues has drawn.

Since human intelligence is assuredly the daughter of language, the Greek intelligence, by the aid of this admirable language, attained to a high degree of development.

And so, whilst the Hindus, the Egyptians, the Assyrians, the Persians, the Medes, the Chinese, and the Jews remained crystallized in their rudimentary civilizations, Greece, during the fifth and the fourth centuries before Christ, endowed the whole world with the treasures of her scientific and æsthetic stores.

The fame of this achievement belongs more especially to Athens. Sparta was stern, warlike, and austere, whilst Athens was more refined, more gentle and humane.

There came a time when Asia again resolved to oppose insurgent Europe. Sparta and Athens united against the invaders Darius and Xerxes, kings of the Persians. The battles of Marathon and of Salamis, won by the Greeks, saved the world, and the glory of Greece became all-triumphant.

Then was witnessed that amazing spectacle which has been called *the Greek miracle*. This small Athenian people was extremely inventive: it may well be claimed to be the source of all our modern intellectual powers.

The mathematical sciences were brought into being by Pythagoras, Euclid, and Archimedes. The dramatic art showed forth in all its splendour

in Æschylus, Sophocles, Euripides, and Aristophanes. The sculpture of Phidias and of Myron attained to a perfection which the moderns have never surpassed and seldom equalled. The Parthenon was a glorious piece of architecture. Hippocrates expounded the first precepts of medicine. Plato and Aristotle were profound masters of human thought.

Were it necessary to sum up in a single name the splendour of Greece and Athens, that name would be Socrates. In the first place Socrates was a martyr.

You will often see, adown the following centuries, that men of lofty and noble impulses and fine intuitions were condemned to death in the name of religion or of law, expiating by iniquitous torture for the daring and audacity of their ideas and convictions. Socrates was one of these victims. Truly was he a great innovator. He dared to affirm that the mind of man was the standard of all things. He proved that the moral law was paramount and supreme, that we must do good simply because it *is* good. He did not believe in the false and absurd deities that cumbered the theologies of Homer and Hesiod. Profound was the revolution that had come about in the human mind. Hitherto the various peoples had tricked out their gods in all kinds of morbid dream fancies: Egyptian deities with heads of animals; the queer uncouth metamorphoses of

Vishnu; Ormuzd combatting Ahriman; Jehovah giving Moses the tables of the Law to the accompaniment of thunder. Socrates brought false gods crumbling to the ground: it was reason, the *divine* reason of man, that must judge all things.

How powerful Greece would have remained had she not been rent by civil war! Weakened and exhausted, she was unable to withstand Philip, King of Macedonia.

And yet the Macedonians were almost Greeks. Alexander, Philip's son, an admirer of the *Iliad* and a pupil of Aristotle, was really a Greek. Consequently, in the person of Alexander, it was Greece that conquered Asia. During the ten years between 334 and 324 B.C. he brought into subjection Egypt and the whole of Western Asia. After the death of this mighty conqueror, however, his empire, founded upon force, fell into ruin.

Egypt was governed by the Ptolemies, who attained to a certain measure of wisdom and skill in rule. The rest of the empire, and more especially Greece, degenerated into a state of anarchy.

IV

ROME

MEANWHILE, in other parts washed by the Mediterranean, there was slowly coming into prominence a formidable power which, when six centuries had passed, was destined to govern and to fertilize the whole world.

In Italy, shepherds and poor tillers of the soil, rugged and barbarous, succeeded in building up around the city of Rome, from the year 753 B.C., a sturdy and vigorous nation which gradually brought the whole of Italy under its sway. Within the space of four centuries, the Romans provided themselves with wise laws and an incomparable army.

The nation was divided into two classes, patricians and plebeians, who bitterly vied with each other for rule and dominance, though they united into one body to resist the invader. They spoke Latin, which, even more than Greek, became the mother-tongue of the whole civilized world.

That which constituted the greatness of Rome, however, was her army.

Neither slaves nor foreigners had the right to be soldiers: this was a privilege reserved to Roman citizens alone. Every citizen was a soldier who, if the Republic had need of him, must fight in its defence. He formed part of the

legion, where the discipline was implacable and unrelenting. From very childhood he was taught that the noblest of all callings was that of warfare. Inured to fatigues and forced marches, the conviction was brought home to him that Rome would at all times and in all places be victorious, and that he must sacrifice his life to public affairs, to the *res publica*.

To wage war in order to supply one's country with slaves, wealth, and territory is not a very lofty ideal. And yet, in this very lack of morality, the surrender of life denotes a certain degree of nobility. In reality, war was looked upon by the Romans as the national industry.

Like every great military Power, Rome, in the fierce and incessant game of war, made acquaintance with disastrous reverses of fortune, notwithstanding her great and repeated victories. The Gauls advanced to the gates of the city in the year 390 B.C. There Brennus, their implacable leader, flinging his ponderous sword into the balance in which the ransom gold was being weighed, gave utterance to that famous expression, the truest in all history: *Vae victis!* (Woe to the vanquished!)

Another foe, an even more terrible one, was Carthage.

The Phœnicians, starting from Tyre, had sent their merchants and their vessels throughout the whole of the Mediterranean. In North Africa

they founded the city of Carthage, which soon became more powerful than Rome itself.

By reason of its geographical position, Sicily found itself destined to be both booty and battlefield for the two rival republics. The struggle between Carthage and Rome (the Three Punic Wars) lasted for more than a century (from 264 B.C. to 146 B.C.). It was Carthage that was defeated.

In the Second Punic War we meet with Hannibal, a Carthaginian (247-183 B.C.), one of the most extraordinary characters in history. At the head of a comparatively feeble army of mercenaries, he crossed Africa, Gaul, the Alps, and entered Italy. His incomparable military genius enabled him to rout the Roman legions and advance to the very gates of Rome. Never before had the capital been in like peril. Nevertheless, the Senate and the people of Rome refused to despair. Finally Hannibal was driven out of Italy, of which he had been almost entirely master for a period of ten years.

In 146 B.C., Carthage was utterly defeated. The city was burnt to the ground; not one stone was left upon another. It is a matter of wonder that nothing whatsoever remains of this powerful empire: everything has vanished.

After the defeat of Carthage, the expansion of Rome continued unchecked. Everywhere her armies were victorious; they overran Syria,

Macedonia, Egypt, Spain, Numidia, Greece, and Southern Gaul.

But now a change had come over the austere life and habits of the ancient Romans. Foreigners, both slaves and freed men, had replaced the citizen soldiers who had fallen on the battlefields of Europe. Besides, the victorious generals failed to agree with one another regarding the division of the spoil. As might have been expected, they were greedy, ferocious, and ambitious. We need but mention such names as Marius and Sulla, Pompey and Cæsar.

Julius Cæsar, however, cannot be compared with the three others, for his genius was truly amazing. Alike prudent and audacious as a general, he conquered the whole of Gaul. A writer, orator, and statesman, he succeeded in becoming master of the entire Roman forces, *imperator* (emperor) to whom was accorded supreme power by a servile and admiring crowd. He was assassinated by the patricians, who imagined that they had safeguarded freedom by bringing about the death of the tyrant.

Although he had not been proclaimed king, he may practically be regarded as the founder of a dynasty. Descending from him came an extraordinary succession of cruel and absolute treacherous and vicious sovereigns, some of whom might almost be looked upon as insane. We will do no more than mention the names of Augustus and Tiberius, Caracalla and Nero.

V

CHRISTIANITY

NOTWITHSTANDING the criminal folly of her emperors, Rome, mother of law and right, imposed some measure of peace and justice upon her subject peoples. While the city was indulging in gladiatorial fights and circus games, the Latin tongue and the Roman laws were spreading throughout the whole of Europe, into Gaul, Northern Africa, Egypt, and Greece. Simultaneously a very fine Latin literature, though inferior to the Greek, made its appearance. In the persons of Virgil, Lucretius, Livy, Ovid, Terence, Plautus, Horace, Cicero, Sallust, and Tacitus, Roman thought, nurtured by Greek ideas, enriched the mentality of the whole world.

For four centuries, the Romans were masters of the globe.

It was during the reign of Tiberius, the second of the Roman emperors, that the greatest event in history took place—the death of Jesus Christ, in the year 33.

At a time when the Greek language and influence was extending along the shore of the Mediterranean, and the Romans were imposing on the nations their powerful juridical and social organization by means of arms, the Jews, confined in the arid mountains of Palestine, by their

contacts with other peoples had been subjected to rude captivity or to a state of humiliating submission. Nothing led one to foresee that this obscure tribe would give birth to the great reformer who has regenerated the conscience of humanity, transformed the ancient world, and inspired a triumphant religion.

Christ is known only by the Gospels, glorious and sublime in their simplicity, writings which the humblest can understand, and wherein the mightiest intellects can find the most profound thoughts.

Jesus was born in Bethlehem of Judæa. He was of humble birth, his father Joseph being a carpenter.

Long before there had appeared prophets among the Jews, announcing the coming of a Messiah sent by Jehovah to bring to an end the hard conditions under which the children of Israel had so long suffered.

Jesus was both a prophet and a Messiah.

He went about the towns and villages, preaching forgiveness of wrong-doing, abnegation of self, scorn of riches, confidence in divine righteousness, the love of our brother man. These were words of equality, of meekness and peace, which had never hitherto been heard.

The few disciples who at first followed him, poor fishermen and artisans, worshipped him as a master, almost as a god.

Soon the numbers of the disciples of Jesus increased. It was related that he performed miracles, drove out devils, turned water into wine, raised the dead to life, and walked upon the waters. By degrees, the high priests and rulers in Jerusalem, jealous guardians of the old Mosaic traditions, became uneasy and perturbed. As Jesus openly proclaimed that he was preaching a new law, and as he called himself a son of God, they determined to check the growing heresy. Consequently they brought him to judgment and condemned him to death.

And so the cruel sentence was carried out by the will, if not of the Jewish people, at all events of its priests. But nations are responsible for the crimes committed by their pontiffs or their kings. The entire Jewish nation has paid the penalty of this terrible injustice inflicted—and even nowadays weighing grievously though most unjustly—upon the children of Israel. Eighteen centuries of suffering have not brought it to an end.

Slowly and pacifically the religion of the Christ extended throughout Syria and Palestine, Asia Minor, and even Greece. Slaves and proletarians everywhere rallied to the new doctrine which promised them a marvellous release, a paradise divine succeeding their earthly tribulations. Thanks to Saint Paul, whose bold and impassioned language everywhere enlisted disciples for Christ,

Christianity ceased to be the religion of a Jewish sect—as the apostles would have wished—and spread amongst the Gentiles.

It may be, however, that its victorious course would not have continued, had it not had the support of a system of fierce and stupid persecution. The courage and valour of its martyrs contributed to the extension of the new faith.

Countless was the number of Christians three hundred years after the death of Christ. They formed a positive state within the Republic. Great thinkers, profound writers, and skilful doctrinarians had codified and transformed the Gospel precepts, instituting a learned dogma which still holds sway, and which gives to the Catholic faith a power of cohesion that is almost indestructible.

The emperors of the family of Julius Cæsar were succeeded by other emperors, the Antonines, some of whom were admirable rulers.

The reign of one of them, Trajan, marked the apogee of the might of Rome. The barbarians were driven back. The people increased rapidly in numbers in Spain, Gaul, and Italy. Cities and towns adopted the Latin civilization and tongue, and order was established in the provinces.

Barbarians, however, came in from every side, circling the empire with their ever increasing hordes.

The emperors who followed the Antonines

were alike infamous and stupid. Corrupt and perverted legionaries imposed their own leaders upon a servile and degraded Senate. The empire was split into two, the Eastern and the Western. One of these emperors (Constantine, about A.D. 312) was converted to Christianity, which had now become very powerful.

Here ancient history comes to a halt. Constantine handed over the West to foolish and inept successors, and established himself in Byzantium.

But the old world has not disappeared. It has left to mankind that which constitutes its very essence: Athens contributing art and lofty thought; Rome, law and government. The Latin tongue, in its various idioms, is one that is now spoken by millions of human beings. And, after the Church had held sway for twelve centuries, the human mind was forced to return to Rome and Athens in order to regain its power and influence.

VI

ISLAM

VERY soon the barbaric races of Goths, Visigoths, Huns, Vandals, Saxons, Franks, Burgundians, Lombards, and Dacians, finding themselves no longer checked by the Roman legions, inundated the civilized lands.

The fifth, sixth, and seventh centuries witnessed the retreat of civilization before invading barbarism. The Christian religion, all the same, spread rapidly, and already possessed two distinct centres: Rome and Byzantium. Barbarism was the same, however, both in the East and in the West. In the East were cruel and stupid emperors, with a subject people of sophists, courtesans, and slaves; in the West, kings who were half savage, who recognized nothing but brute force, and ruled over districts which they had devastated. From the West came the wailing cry of childhood; the East witnessed the death-agony following upon decrepitude and decay.

Such was the state of Europe when Mohammed (A.D. 570-632) appeared.

It was about A.D. 613 that he began his mission, claiming that he had received from God, Allah, the sovereign of the universe, a supernatural revelation: the Koran.

The whole of Islam may be summed up in

one word: the Koran. This is not simply a propagandist book, it is also a grandiose and poetic work. The fascination which it has exercised proves to what a degree the human mind allows itself to be seduced by images. The poetry of the Koran, both learned and inspired, proclaims the greatness of the one God in terms monotonous enough, though potent by reason of their very monotony.

This God, indeed, whose praises appear in each verse, is devoid of metaphysical profundity. He is fashioned after the image of a supreme king, omnipotent and omniscient, most good and wise. From the throne where he sits in heaven, he governs sun and earth and stars. He sees everything that is done by feeble humanity. Creator of all things, he controls East and West, night and day, sea and sands, lightning and tempest, clouds and stars. All is subject to his sovereign sway. Man is the meanest slave, followed everywhere by God's eye, subject to His will. The theogony of the Koran is but the despotism of an only personage.

Man's chief duty, therefore, is to worship and bow down before this master. But he must also be merciful, practise almsgiving, observe justice, regard as brothers those who acknowledge the one God. In a word, the morality of the Koran is pure, although streams of blood have been shed in its name.

A simple and logical religion, devoid of rites and ceremonies, blending with instinctive sagacity precepts of elementary morality and an elementary conception of the world, Islam was well suited to a people of young souls. No need for reflection and meditation to understand that heaven is the abode of a God fashioned after the likeness of a very great and splendid man, to obey whom is the law. There is little more than this in the Koran, though it proved sufficient to spread throughout the world.

Previous to the Koran, everything written in Arabic was crude and mediocre. The Koran inaugurated an Arab literature, with the result that it is not only a religious doctrine, it is also the first and the finest book in the Arab tongue.

After the appearance of the Koran, the Arab tongue made its way throughout the world even more rapidly than the Greek and Latin tongues had done. A hundred years after the death of Mohammed, Arabic was spoken in Baghdad and Cordova, in Alexandria and Smyrna. No book, with the possible exception of the Christian Gospels, has exercised such amazing power over the souls of men.

Overwhelming was the conquest of Asia, Africa, and a part of Europe. Book and sword alike were the instruments of the revolution. Conversions took place amongst idolaters and heathen, Jews and Christians. It is said in the

Koran that continual warfare must at all times and places be waged against infidels in order to bring them into subjection to God. This constitutes the "Holy War". Those who fall on the field of battle go direct to Paradise. All this resulted in a spirit of implacable fanaticism which ensured victory to the invading armies. The conquered, immediately adopted into the new faith, became as fanatical as their victors.

In Syria and Numidia, Spain and the South of Gaul, Islam, a rising and all-invading torrent, encountered no opposition. A kingdom of France, however, was already beginning. The Franks (a Germanic tribe) had become converted to Christianity. It was a Frank general, Charles Martel, who, gathering together all the Christian forces of the day, checked the advance of the Saracens at the battle of Poitiers in A.D. 732—a memorable date marking the end of the Arab inundation.

VII

THE FEUDAL SYSTEM

A FEW years later, Charlemagne, grandson of Charles Martel, having become King of France, by his valour and military talents allied to marvellous political gifts succeeded in becoming master of an empire that was practically omnipotent. Charlemagne is an imposing historical personage who has become almost legendary. As King of the Franks, he brought into subjection the greater part of Germany, the North of Italy, and the North of Spain. He went to Rome, and was there crowned Emperor of the West.

He was not simply a warrior, he was also a legislator anxious to diminish the barbarity and ignorance of the Frank and the Germanic populations. The Germans claim him as the first of their sovereigns, though he was more French than German. The centre of Charlemagne's empire was at Aix-la-Chapelle, on the banks of the Rhine. He reigned over the Seine and the Loire, as well as over the Elbe and the Rhine.

One of the greatest disasters that ever befell mankind was the breach between France and Germany brought about by the Treaty of Verdun in A.D. 843, which was signed by his sons. The Carolingian empire was broken up into a France (Charles), a Germany (Louis), and a Lothringia

(Lothaire). The Treaty of Verdun, the beginning of the separation of the two languages, French and German, unfortunately brought about also the separation of the two great peoples. So odious a split could do nothing else than inflict the most cruel hardships upon Europe.

During the three centuries that followed, civilization made no progress whatsoever. This was the reign of the Church and the feudal system. The lords and nobles, more independent than ever, became more and more barbarous.

There was no such thing as a French or German, a Lothringian or an Italian homeland.

The Church was all-powerful, and the Christian faith held sovereign sway. Europe was everywhere wild and uncultivated, with the exception of the monasteries, whose influence to some extent alleviated the harshness of the times. The Pope became increasingly powerful: kings and emperors had to obey him.

Endless wars were waged; invasion after invasion by barbaric Normans; plunder and pillage were everywhere. Against this state of things, the land-cultivating populations were unable to do anything.

Never had there been so long a period of intellectual subjection and decline. During the ninth, tenth, and eleventh centuries—if we make exception of the *Song of Roland* and of the erecting of the wonderful Gothic cathedrals which

even nowadays excite amazement and delight—the mind of man remained buried in a dull slumber which appeared as though it would never end.

Moral subjection to the Church, material servitude to the lords: such was the dual characteristic of the feudal era.

The principal event of these disastrous times was the conquest of England by the Normans.

The Normans, pirates from Scandinavia and Dania, had settled in the North of France, and, within the brief period of two generations, had adopted the religion, the customs, and the language of the conquered land. William, one of their chiefs, under vague soi-disant religious pretexts, left France in 1066 with an army of sixty thousand men who routed the Saxon soldiers of Harold in the battle of Hastings. William instituted the feudal system in England, and shortly afterwards there was a kingdom of England over against that of France and the empire of Germany.

These three noble countries, however, instead of combining and uniting for mutual help, were continually rent by fierce wars, even more absurd than fierce. Fighting lasted for eight centuries, and indeed it is impossible to assert even now that the feelings of hate, of rivalry, and the lust for bloodshed, have altogether ceased.

Nevertheless, there was a time when Europe seemed united. This was in the furtherance of

a great act of religious faith: the Crusades. There was much enthusiasm, though no permanent result was effected. Jerusalem remained in the power of the Turks, as did Egypt, Syria, and the entire coast of Africa. The mighty effort made by Christendom had no other result than to make secure the power of Islam.

Whilst Germany was spending her strength in foolish and stupid feudal quarrels, the Kings of France and England had united and strengthened their respective kingdoms. This was sufficient to give them a liking for war; for as soon as a sovereign, or even a people, acquires a certain amount of power, that power is expended in the detestable game of warfare and bloodshed. For one hundred years (from 1345 to 1445) the English ravaged France. Now, all these invasions and spoliations gave birth to a new sentiment, that of patriotism, which became incarnated in a young French peasant girl, Joan of Arc. After a series of brilliant victories, Joan was taken prisoner and burnt as a witch by the priests and the English. The burning of the heroic Joan is one of the most sinister tragedies of history (1431).

VIII

THE RENAISSANCE

FORTUNATELY, notwithstanding these useless and futile wars, a state of civilization began to appear, the dawn and herald of modern times.

Universities were founded, in which the sciences—and especially an absurd system of theology—were taught (Salerno, 1096; Bologna, 1158; Paris, 1200). Although these universities remained firmly wedded to the narrowest and most rigid Christian dogmas, there was already abroad a spirit of discussion, and consequently, perhaps, the beginning of emancipation.

The Renaissance had its origin in Italy.

Oppressed by her divers masters, Italy, liberating her mind and forgetting her material bondage, succeeded in promulgating her arts and sciences; the result being that she began to exercise a vivifying influence over the whole of Europe. Seldom had so great an intellectual power been seen coupled with such political incapacity.

In the Italian peninsula, as throughout the rest of Europe, the feudal system had effected a state of complete disruption. The Roman empire had been succeeded by countless rival and hostile principalities. In spite, however, of wars which ruined provinces and cities, in spite of grievous epidemics, the middle classes in the

large towns and cities succeeded in acquiring some measure of independence, even of security. This was more especially the case in Tuscany and Florence.

Throughout the fourteenth century, Florence, even more than Rome, was the intellectual capital of Italy. The language then spoken in Florence was the Italian language of to-day, the worthy daughter of the Latin tongue, sonorous and flexible, harmonious in its imagery, docile to the will alike of scholar, orator, and poet.

Dante (1265-1321), one of the greatest of poets, was the glorious pioneer of the Italian Renaissance.

Florence produced incomparable exponents of the plastic arts. In painting, Giotto (1266-1337) began to throw off the cold and rigid Byzantine imagery. Orcagna (1308-1369) left a stupendous masterpiece in the Campo-Santo of Pisa. This was the time of the "primitives", who had too long been despised, but were now universally acknowledged as masters. It was in Tuscany that the great architects and statuaries appeared. Everywhere rose sumptuous and magnificent buildings. In Venice, near the church of San Marco, the finest flower of Byzantine art, was erected the palace of the Doges, in which the arabesques of the Mussulmans harmoniously blended with the ogives of the Christians. Pisa and Parma, Florence and Siena, produced baptisteries, campaniles, and cathedrals, the delicate

beauty of which no artists during the following centuries have succeeded in attaining.

And yet all this splendour of Italian art was almost unknown to the rest of Europe. Spain was warring with the Moors. France and England were engaged in deadly strife. The Germans were tearing one another to pieces, while the Slavs were no more than savages.

About that time, two great events took place—events of unequal importance—which marked the end of the Middle Ages: the discovery of printing in 1450, and the capture of Constantinople by the Turks in 1453.

In 1453, the Sultan Mohammed the Second laid siege to Constantinople.

Mohammed the Second was the type of the conqueror who recognized no obstacle to his slightest whim, and whose valour was equalled by his ferocity. His victory was complete. The city of Constantinople was sacked and its inhabitants put to the sword. The victims numbered over a hundred thousand. By this exploit the Turks won the right to become a European Power.

For several centuries they remained what they were at the outset: an army of fanatics, courageous though barbarous; an army that set up its camp, its horses, mercenaries, and cannon, in the very heart of civilization.

* * * * *

About this time, an obscure merchant of Mainz, named Gutenberg, invented the printing press, an invention destined to transform the world.

The history of mankind may be divided into two periods. Ideas, though fruitful and potent, could only at a very slow pace extend beyond family, city, or nation. Man could not make himself either known or understood by other men. This was the period which preceded printing.

It was a time of isolation. But there had to be collaboration, for only at this price could progress be effected. Left to its own powers, a single human intellect is helpless; it must be aided by other human intellects. The conquest of truth, that supreme end on which our happiness depends, cannot be due to the genius of a single man. Collective effort is needed. Separate, we are powerless; united, we become invincible.

In 1454, at Mainz, a book of "letters of indulgences" was produced, printed in movable type. In the same town a Bible appeared in 1462, and Cicero's *De Officiis* in 1465. The following year a printing press was set up in Rome. In 1470 there was one at the Sorbonne in Paris, another in Venice, and another in Bologna.

Ten years later there were printing presses in all the principal towns of Europe.

Year by year, the numbers of printed books, and of the copies of each one, steadily increased.

Henceforward the humblest inhabitant of each country might himself make acquaintance with the masters of thought, reading their works over and over again.

From the year 1454 onwards, owing to the spread of ideas by books, progress made rapid and ever increasing strides. By means of books—and very soon by means of journals and periodicals—*a single human thought acted and reacted upon all the rest.*

This resulted in the benevolent collaboration of all the human beings who dwell on the surface of our small planet. Up to that time mankind had been divided, and consequently ineffectual. Now they were able to unite in a common attack upon ignorance and error.

IX

THE EXPANSION OF EUROPE

DURING the three following centuries, from 1450 to 1789, regal authority was despotically established. The feudal age was succeeded by the monarchical. The Catholic Church saw the decrease of her authority over sovereigns, of her power over the nations, of her domination over the human conscience. There was set up a Christian—as apart from the Catholic—religion. Great homogeneous nations succeeded scattered seigniories. Irresistible was the power of expansion, increasing the might of Europe which sent her fleets and her colonists all over the globe. The human species, taking possession of the whole earth, began the conquest of its freedom in the subjection of matter by science.

In this short period of three centuries more was effected by man than during the previous twelve centuries. And in its turn the nineteenth century alone did more for the expansion of human might than the preceding three centuries.

This fertile period began with the discovery of America and the exploration of the globe. Here we find Spain and Portugal playing the main rôle.

Up to this time Spain had remained apart from Europe. After stern fighting with the Arabs,

however, the Spaniards became masters of the whole Iberian peninsula. They possessed bold navigators who discovered Guinea and the Congo; they went as far as the Cape of Good Hope (Diaz, 1486).

Then an explorer of genius conceived the idea of going beyond the western shore of Africa. Christopher Columbus (1446-1506) was an Italian born at Genoa, though it was actually in Spanish vessels that he discovered America.

He set out from Palos on the 3rd of August, 1492, with three caravels which the Queen of Spain had given him (*La Capitane*, *La Pinta*, *La Nina*). The crew consisted of ninety men, all Spaniards. He reached the Canaries on the 9th of August. On the 6th of September he sailed away into the unknown West. For thirty-two days he boldly went straight ahead, sailing farther and farther away from the land he knew, notwithstanding the terrified state of mind manifested by his crew, and trusting to no other guide than his own intuition. After a time, however, certain signs and indications led them to suppose that they were approaching land. Birds had been seen; also foliage and branches floating on the surface of the water. On the 12th of October, 1492, at daybreak they beheld, with quite inexpressible joy, San Salvador, a verdant island belonging to the Bahamas. Columbus was the first to land. Falling on his knees he used his sword as a cross,

planting it into this unknown territory, and so taking possession of it in the name of Christ and of his sovereign.

He asked the naked and simple-minded savages, who came running up from every side, if they had any gold to bring to him.

Not finding gold, though still hoping to unearth the fabulous wealth of that India which he imagined to be close at hand, Columbus continued his voyage. He discovered the islands of Cuba and Haiti, and then returned to Europe (March 15, 1493). His reception was triumphant. Expeditions were organized and some thousands of colonists, soldiers, and gold-seekers crossed the Atlantic. Columbia, Central America, and Brazil were discovered.

This is one example of those acts of injustice which appear so frequently in history; for the vast continent discovered by Columbus, instead of bearing his name, is called after that of a Florentine navigator, Amerigo Vespucci, who went there some time afterwards.

Still, the glory of Columbus remains undimmed. He possessed that striking characteristic of the greatest of men: boldness in action as well as in thought. Sarcasm could not taint thought; doubt could not check action. Never before, with such feeble resources, had so fruitful a victory been won over the hostility of men and the fury of the elements.

Whilst Spain was taking possession of the Antilles and of the American continent, Portugal also was making vast conquests. Magellan, a daring Portuguese navigator, was the first to circumnavigate the globe.

The explorers of these unknown lands were bold and ferocious warriors. In Chili, Peru, and Mexico they found themselves confronted with none but half-savage populations. Bloodthirsty massacres rather than battles were the consequence, so that nothing but ruins now remain of ancient Mexico and Peru.

In the middle of the sixteenth century, the entire globe was practically shared between Portugal and Spain. All the American territories were Spanish, with the exception of North America and the Argentine, which were still undiscovered, and Brazil, which was Portuguese.

The African and Asiatic seas were all Portuguese.

Spain and Portugal, by these surprising conquests, proved themselves inheritors of the might of Rome. It seemed as though the world were destined to become Latin. Neither France nor England, and much less Germany and Italy, had such lofty aims and designs: they did not look beyond the small continent of Europe.

Indeed, the sovereigns of Europe were concerned simply with making their monarchies independent of the feudal lords, so powerful in

their own territories. Depending upon the burgess class, they partially succeeded. But it seldom happens that absolute sovereigns fail to use for purposes of warfare the power they have acquired. And this was what happened: to the great misfortune of their respective peoples, the Kings of France, England, and Spain all went to war.

First we see France (Charles the Seventh, Louis the Twelfth, and François Premier) going to do battle in Italy. From 1495 to 1560, the French and the Spanish vied with one another for leadership in the Italian peninsula. Spain was then governed by a great politician, Charles the Fifth, emperor of Germany, who also possessed the two Americas, Flanders, Sicily, Franche-Comté, Naples, Hungary, Bohemia. The sun never set upon her territories.

Henry the Eighth, king of England, François Premier, king of France, and Charles the Fifth, emperor of Germany, fought over a period of thirty years, and the result of all their fighting was nil. The forces of the three kingdoms were so evenly balanced that thirty years' warfare failed to secure the supremacy of any one of them.

On one point, however, they were agreed: the formidable increase of taxation and of military power. Even in those days princes, at the expense of the masses, engaged in that rivalry of money and soldiery which finally culminated

in the monarchical and martial policy of contemporary times.

In the end, these three sovereigns succeeded in overcoming all opposition to their royal authority. They strengthened the régime of despotism—a despotism in no way inferior to their egoism.

Nevertheless, the warlike exploits of these monarchs did not prevent the Italian Renaissance from permeating Spain, England, and more especially France. The French language was very little different from what it is now. Throughout the civilized world we find a return to Græco-Latin antiquity.

X

THE REFORMATION

THE one great event of these times, even greater than the Renaissance, was the Reformation.

For some time past, throughout the whole of Christendom, especially amongst the priests, a spirit of revolt had been brewing against the corruption and depravity of the great dignitaries of the Church. The fervent faith of the poor and pious monks increased the indignation they felt.

Rebellion assumed form in the person of a man who immediately inspired it with extraordinary vitality. Martin Luther (1483-1545), a German monk, was one of the heroes of human thought. At Wittenberg he attracted numbers of young men and priests, students and nobles, who approved of his vehement protests against the injunctions of the Pope. In 1520, the papal bull was burnt to ashes. Ten years afterwards, the formula of the new religious law was officially promulgated (Confession of Augsburg).

Heresy grew apace, spreading throughout the North of Germany and Scandinavia. It obtained numerous adherents through the instrumentality of Calvin (1509-1565) who, along with Luther—perhaps in an equal degree—founded Protestantism.

Luther's work was alike the destruction of an

ancient dogma and the construction of a new one. This great man was a strange blend of contrasts and incongruities. He disputed the authority of the Pope and believed firmly in the Devil. He preached tolerance and yet carried intolerance to extremes. Like all founders of religions, he could not foresee in what light his disciples and his successors were to regard him. Undoubtedly, the whole of Protestantism owed its origin to Luther, but after his death there arose so many Protestant sects, so divergent from one another, that unity was altogether lacking in these many beliefs. Some Protestants differed but slightly from Catholics; others did not even acknowledge the divinity of Christ.

All the same, there came into being through the instrumentality of Luther a sturdy religion—if the name of religion can be given to a doctrine that possesses neither revelation, nor obligatory ritual worship, nor consecrated priests.

Luther, regarded as a saint by some and an imposter by others, was really as far removed from imposture as he was from sanctity. Violent, sincere and simple-minded, brave and chaste, he died a poor man without sending to the stake a single heretic. Notwithstanding his childish superstitions, his fantastic theology, and his furious polemics, he was truly a great man, and may be regarded as one of the most valiant defenders of freedom of thought. Whether he

believed in liberty or no, he was indeed a true liberator.

The Reformation, a democratic movement in Germany, was aristocratic in France and monarchical in England.

It did not take place without terrible disruptions, civil wars, invasions, and acts of banditry. For another two centuries men would not understand what Voltaire, the great philosopher of the eighteenth century, subsequently revealed to them: that a man is not evil simply because he does not practise the same religion as oneself.

And so France, Germany, and England experienced religious wars which covered their territories with devastation and ruin.

In Spain, wars of this kind did not take place. An ever vigilant Inquisition burned or exiled all, whether Jews, Mussulmans, or Protestants, who did not embrace the strictest Catholicism. None the less Spain suffered from religious strife, for her king, Philip the Second, led her in a war against the Reformation—a war which proved disastrous.

As formerly in Byzantium, so now in the world of Christendom, theological controversy swayed men's minds, sapping by its sterile inanity that human impetus and expansion towards truth and beauty of which the Renaissance had appeared to be so glorious a beginning.

The sixteenth century, which had begun

with Christopher Columbus, Michelangelo, and Copernicus, was destined to terminate in implacable and ineffectual religious wars. Doubtless these wars called forth noble deeds of arms: many a martyr had occasion to prove his heroism, many a soul was fortified in the strife. But it was no longer the reign of God on earth. The Christ for whom they appeared to be fighting was forgotten.

In France, the religious wars came to an end only about the time when Henri Quatre mounted the throne.

Henri de Bourbon, king of Navarre, a Huguenot, after the death of Valois became lawful king of France in 1589. The people of France, who had long hesitated between the Catholic Church and the Reformation, had become stoutly Catholic. Henri Quatre abjured Protestantism in 1594; during the sixteen years that followed, he succeeded in restoring the kingdom to order and peace, almost to a state of prosperity. The Edict of Nantes gave the Calvinists the right to practise their own religion.

The two reigns of Elizabeth, queen of England, and Philip the Second, king of Spain, which lasted almost half a century (1558-1603), ran parallel to each other and were characterized by a bitter and fierce rivalry that was alike religious and political. Philip was the champion of Catholicism, Elizabeth of the Reformation.

The mighty fleet, however, the invincible Armada which Philip had armed and equipped, was utterly defeated and destroyed in August 1585. From that moment down to the present time, the naval force of England was destined to be sovereign, and her ships to rule the waves.

Germany also had to suffer from religious wars. Her territory was devastated by the Thirty Years War (1618-1648). The cruel struggle was ended by the Treaty of Westphalia, which for long determined the territorial limits of the various European States. Prussia, Holland, and Sweden were recognized as independent. Alsace ceased to be empire territory and was restored to France. The Elector of Brandenburg became sovereign of Prussia. Austria remained mistress of Bohemia and Hungary.

In England, Oliver Cromwell, a bold Protestant soldier, obtained complete power over the country. Charles the First, king of England, died on the scaffold in 1649.

Such a past of violence, murder, and lying, alas, makes but a sorry tale!

XI

THE PROGRESS OF SCIENCE

IF we would seek consolation for all these sinister happenings, we must know something of the progress made by science. In this respect, the century beginning in 1550 proved marvellously fruitful.

In the world there appear to exist two antagonistic forces, Ormuzd and Ahriman, darkness and light. Ahriman is represented by ruin and warfare; Ormuzd by science, which secures happiness and liberation to mankind. And yet, sad to relate, poor stupid humanity disdains science and plunges into the cruelties of bloodshed and warfare.

From 1550 to 1650 the conquests of science were incalculable.

Copernicus, a Pole, had already regarded the Sun—not the Earth—as the centre of the universe. The true creator of astronomy, however, was the German Kepler (1571–1630), who advanced a theory of the solar system which is still accepted. The Sun is a star around which the planets, including this Earth of ours, gravitate. Galileo (1564–1642) invented the astronomical telescope which enabled one to see the mountains of the Moon, the spots on the Sun, and to measure the diameters of the planets. He worked out the mathematical theory of the pendulum, established the law regulating the motion of falling bodies,

and boldly asserted, along with Copernicus and Kepler, that the Earth moves round the Sun. He attained the full measure of glory—even suffering persecution. Summoned before the Inquisition, he was condemned to abjure by oath on his knees the sublime truths of his scientific creed.

France, too, had her hero in science, in the person of René Descartes (1596–1650). He had no superior, and was the equal of the greatest. Philosopher and mathematician, physicist and physiologist, he gave new life to all that he touched, and revived science. As a philosopher, his implacable logic demolished all the nonsensical insipidities of Scholasticism, of Aristoteleanism, and theology. In his *Discours de la Méthode* (1637) he returned to and reconstructed the Socratic theory of knowledge, proving that there are no other truths than things demonstrated or evident *per se*. As a physicist, he set forth a definite theory of light and of the laws of refraction. As a mathematician, he opened up an absolutely new track in an immortal work upon analytical geometry. As a physiologist, he obtained clear insight into the reflex action that controls any theory of innervation.

Nor was Descartes the only one to react against the heavy yoke of Scholasticism. Francis Bacon (1561–1626), the Englishman, in his *Novum Organum*, splendidly set forth that only

by experimental study can we become acquainted with the laws of Nature.

Another famous Englishman, William Harvey (1578-1657) discovered in 1628 the circulation of the blood, though a glimpse of this phenomenon had been obtained in 1543 by the ill-fated Michel Servet, infamously burnt at the stake by Calvin.

Other great names belonging to this memorable period may be quoted. Algebra was invented by Viète (1540-1603), and its field of action greatly extended by the Frenchman Fermat (1601-1665). Another Frenchman, Blaise Pascal (1623-1662), thought out the calculation of probabilities. Torricelli, an Italian (1608-1647), demonstrated that the air possesses weight like any other material body. He invented the barometer, an instrument that measures the gravity of the air.

Learned societies were formed, laboratories opened, and observatories founded. Science revealed itself to be incontestably the most powerful of all international forces.

This was also a period of great writers, perhaps the greatest in modern times: Shakespeare in England, Cervantes in Spain, Montaigne in France.

During the second part of the seventeenth century, France was destined to play a predominant rôle. Louis the Fourteenth, whom all

sovereigns endeavoured to imitate, was the personification of absolute power. From the intellectual point of view, profound thinkers and writers combined to give unprecedented expansion and *éclat* to the French language.

Not France alone, but the whole of mankind may well be proud of having produced such geniuses as Molière, Racine, Corneille, La Bruyère, Pascal, La Fontaine, Bossuet. With Shakespeare and Cervantes, they form part of the human treasury.

In the domain of science, three names may be mentioned more particularly: the German Leibniz, the Englishman Newton, and the Dutchman Huyghens. In spite of these great men, however, science made no great advance during this period: it was literature that exercised tyrannical sway over men's intellects.

Leibniz (1646-1716), who shared with Newton the honour of having invented the integral calculus in 1700; was not only a profound mathematician but also a fertile and original philosopher, one of the noblest men who ever lived. His genius, like that of Descartes, embraced all things. Well in advance of his age, he foreshadowed the universal use of an international language, as well as the advent of international peace.

Newton (1642-1727) effected the reform of rational mechanics, and set forth in clear and simple fashion the law of gravity. The force which

determines the fall of bodies to the Earth causes our planet to gravitate round the Sun, and the Moon round the Earth. It was also Newton who, by means of the prism, succeeded in decomposing sunlight into its simple elements. He wrote an admirable work on the fundamental laws of optics.

After all, in spite of Newton, Leibniz, and Huyghens, in spite of the foundation of an Académie des Sciences in Paris, the *Journal des Savants* (Paris), the *Acta Eruditorum* (Leipzig), the *Philosophical Transactions* (London), and the increasing number of scientists, the second half of the seventeenth century was less brilliant, from the scientific point of view, than the first half, which was made illustrious by such names as Galileo, Bacon, Pascal, Descartes, and Harvey.

Politically, during the second half of the century, the France of Louis the Fourteenth was the one great military power of the world. As was always the case, however, the military spirit and the lust of conquest proved disastrous, the result being that, after sixty years of fighting, France, a country which might have been so powerful, found itself enfeebled and impoverished.

Louis the Fourteenth was ill-starred not only in his wars but also in his criminal intolerance. In 1685, he revoked the Edict of Nantes. The noblest of the Protestants, those who remained faithful to their religion, had to suffer exile. The intellectual *élite* of France were lost to their country.

XII

THE EIGHTEENTH CENTURY

THE eighteenth century was not without its wars, though these were indecisive and inglorious.

Two new Powers, Russia and Prussia, intervened in the destinies of Europe.

Peter the Great, a veritable genius though only half civilized, attempted to introduce into the vast barbaric land of Russia the customs of Western civilization. Frederick the Second, king of Prussia, raised an excellent army and imposed his might upon the whole of Germany. This extraordinary man, enamoured of literature as well as of the arts and sciences, himself both a philosopher and a poet, was above all else a great general, alike indifferent to defeat and to success. Unaffected by any tiresome scruples of morality, and equally skilled in politics and in warfare, he obtained complete sway over Prussia.

Orthodox Russia, Catholic Austria, and Protestant Prussia united in committing a great crime which for many years grievously afflicted an entire nation: the partition of Poland.

Nevertheless, the eighteenth century was *le grand siècle*. It boldly attacked every kind of political, religious, and social problem, and set free the human mind from the shackles of tradition. It cannot be asserted that any problem

received a definite solution, for there is never anything absolute in human machines. All the same, fundamental questions were being asked. Efforts were made in the direction of a better future for mankind. Such words as liberty, equality, and fraternity were common currency, words which could not be effaced from the consciousness either of individuals or of peoples. To what destinies will men be led thereby? It is impossible to answer the question. All the same, the eighteenth century accomplished its work as the stage on which were enacted the most formidable problems of sociology.

This work was rather destructive than constructive. But before erecting a new building—a task reserved for the centuries that came after—it was imperatively necessary to demolish the old monument erected during fifteen hundred years of ignorance and error.

This was the task of French writers, under the fertile inspiration of English thinkers.

Among the philosophers of this period was, first and foremost, Voltaire (1694–1778). His contemporaries included Montesquieu, Diderot, d'Alembert, Buffon, and J. J. Rousseau.

Ideas that are complex in the mind of the great men who give expression to them become simple once they permeate the soul of a people. The whole of this ardent propaganda may be summed up in the following few sentences:

"Man is something sacred to man. The various individuals of a nation are all entitled to equal justice. Progress is in the future, not in the past. It is to science that we are indebted for our liberation."

These are elementary ideas which are nowadays taught to children of twelve throughout the world. They are so commonplace that one is almost ashamed to write them down. In the year 1760, however, they were anything but commonplace, and it was the *grand siècle* of France, enlightened by the genius of England, that spread far and wide these sane and virile thoughts.

At the time when Russia, in Eastern Europe, was beginning to extend her dominion into Asia, another great Power was rising in the West, on the other side of the Atlantic. Russia was relying upon despotism; America upon freedom.

North America was explored and colonized long after Central and South America. Explorers and colonists were confined to the French and the English. Now, because of an uninterrupted succession of apathy and error, it came about that the work of the French in America was ineffectual in furthering French influence. The French fought in Europe without benefiting thereby, and without establishing anything on the other side of the Atlantic. Throughout that immense continent, it is the English language

that is spoken in the north, and the Spanish language in the south. The French have not retained a single shred of this vast territory.

The English colonies prospered very rapidly.

In 1585 a few colonists disembarked on a piece of land which they called Virginia, after Elizabeth, the virgin queen.

In 1620, about a hundred Separatists (a dissenting Protestant sect) arrived at New Plymouth. They cleverly organized themselves into a kind of autonomous republic, which numbered three thousand in the year 1640.

The principal English colonists, however, were the Puritans, who in 1629 founded Massachusetts, which speedily became very prosperous. In 1675, the town of Boston numbered seven thousand inhabitants; Massachusetts numbered sixty-seven thousand.

The Dutch had been compelled to cede to England New Amsterdam, which in 1664 became New York. This latter town had a population of five thousand eight hundred at the time of the Treaty of Utrecht (1713). At the present time its population is over five millions.

A company of Quakers, with William Penn at their head, founded Pennsylvania, which soon became one of the wealthiest districts of America. In 1715, it numbered forty-five thousand inhabitants.

All these colonists were very ardent religionists

of the strictest morality. They were also loyalists, i.e. wedded to the monarchical government of England; although at the same time they were firmly determined to administer their own laws and not to allow themselves to be molested by the whims and fancies of their governors and the greed of the metropolis. Education was widespread. There was no recognition either of nobility of birth or of hereditary peerage. These subjects of the King of England were already republican and democratic at heart.

In 1763, after the Treaty of Paris, England possessed in North America a colony numbering about twelve hundred thousand inhabitants.

The principal towns were Boston, the real intellectual centre (fifteen thousand inhabitants), New York, already a great commercial centre (twenty-five thousand inhabitants), and Philadelphia (twenty thousand inhabitants).

The colonists were mainly farmers and tillers of the soil. Their education was at a higher stage of development than in any European country. All Americans could read; all of them read the Bible.

These colonies governed themselves without incurring any great expense. The principal—or rather the only—bond that linked them to the metropolis was the governor sent by England to represent English law and to collect the taxes.

All these emigrants were fully conscious of

their dignity and jealous of their independence. Fervent ideas, liberal in England and democratic in France, thrilled the very souls of these young people.

A time came when the population proved unwilling to pay the unduly imposed tax.

At the King's command, Lord North, an envoy of the British Parliament, replied by sending General Gage to Boston and suppressing the liberties of Massachusetts.

The principal colonists of Boston, more particularly Samuel Adams and Warren, assumed a bold initiative. They summoned a congress at Philadelphia in defence of the rights of the colony. The congress met on the 5th of September, 1774. It was the first time that the American colonists, hitherto scattered over vast territories, had concerted together in one common action and thought. This date marks the foundation of the United States of America.

Swift and decisive were the events that followed, each marking a fresh step along the path of secession. In April 1775, Gage's English troops came into conflict with the militia of Massachusetts at Lexington. The following month the second congress met, raised an army, and issued paper money. In June it nominated George Washington (1732-1799) General-in-Chief of the militia. Two days afterwards, a great battle at Bunker Hill marked the first

great victory won by the hero of American independence.

The following year the congress, which had met in Philadelphia, decreed a solemn declaration of independence drawn up by Jefferson: a declaration of rights. The French declaration of the "Rights of Man" was subsequently drawn up in almost identical terms. "All men are by nature free and independent; all power belongs to the people; magistrates are only its proxies and its servants, always responsible to the people; no office should be hereditary; the legislative and executive powers of the State should be apart from the judicial power."

The Americans rightly celebrate as a national holiday the anniversary of the 4th of July, 1776. On that day they became a nation, one destined to stupendous achievements. This new-comer among the nations, which numbered only two million souls in 1775, has now a population of over one hundred and twenty millions.

The War of Independence lasted six years, with varying fortune. It was the intervention of France that determined the victory of freedom.

French opinion, especially in Paris, was enthusiastic in favour of the champions of independence. One of the men who do most honour to France, the Marquis de Lafayette (1757-1834), manning a frigate at his own expense at the age of twenty, set sail for America and placed himself at the

service of the Americans, i.e. of freedom and right.

After severe fighting, the English army was defeated, and peace was signed in 1782.

The independence of the United States of America was assured. France acquired no other benefit from this peace treaty than the consciousness of having fought gloriously and of having gained the victory in a righteous cause.

In things moral, however, as in things material, nothing is ever lost. A hundred and forty years afterwards, France, struggling against a powerful empire, was to receive the same succour that she had once given to America, and America in her turn was to cross the ocean and fight in the cause of justice.

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In France there were the beginnings of great things, destined equally with the American revolution to transform the world.

From the early years of the reign of Louis the Sixteenth, opposition to royal despotism had continually grown and increased. Riots and disturbances of all kinds took place. King and Queen, the monarchical system, were cried down and vilified in pamphlets. The financial resources of the State were exhausted. It became necessary to have recourse to the States-General, a combination of the three orders: nobles, clergy, and Third Estate.

Notwithstanding the opposition of the King, the States-General decided to form themselves into a National Assembly. On the 20th of June, 1789, under the leadership of Bailly, the members of the Assembly took a solemn oath not to separate without having established in France a constitution.

Mirabeau, the eloquent orator, caused a decree to be sent forth proclaiming that the persons of the deputies were inviolable. Four days later, on the 27th of June, nobles and clergy united with the Third Estate.

Instead of yielding to the Assembly, Louis the Sixteenth concentrated troops at the gates of Paris. There was great excitement in the capital.

Protests, cries, and disputes were general. On the 13th of July, magazines and stores were pillaged. Without any concerted plan, the excited mob made their way to the Bastille, the governor of which was forced to surrender on the 14th of July, 1789.

The capture of the Bastille was a great historical event, for things are but symbols, and facts have no importance except in so far as they represent ideas. The Bastille stood for the ancient despotism, the stronghold of abuses, the gaol that kept imprisoned all freedom of thought; its cannons, dungeons, and mercenaries symbolized the absolute power of former kings.

And kings understood this, for they speedily

leagued themselves against the victors of the 14th of July. Well did they know that the fall of the Bastille in Paris would carry in its train the fall of all other bastilles.

It is for this reason that the 14th of July is one of the notable dates of history. It marked the end of royal omnipotence, the advent of popular government.

Now, as nations can acquire force or power neither from revelation, as does the Church, nor from divine right, as do kings, nor from a military tyranny, as do conquering invaders, they must have some authority to invoke. In the nineteenth and twentieth centuries this authority is that of Science.

During the latter years of the eighteenth century, science had made tremendous strides forward, thanks to the genius of one of the greatest of mankind, Lavoisier (1743-1794).

A few decisive experiments enabled him to evolve two sciences which had hitherto been only scattered shreds of knowledge: chemistry and physiology (1776-1788).

Within a period of twelve years he proved that heat is an imponderable force, that matter is composed of indestructible atoms, and that, notwithstanding the mutations of its forms, nothing of it is either lost or created. He discovered the oxygen of the air, and showed that combustion is due to this oxygen combining with bodies.

He proved that living beings consume the oxygen of the air, and that therefore life is a combustion, a flame, a chemical phenomenon. Previous to the time of Lavoisier, there had been no understanding whatsoever either of chemistry or of physiology. He made everything clear and blazed the trail for discoveries of all kinds.

Henceforward chemistry, physiology, and physics generally advanced rapidly. Let their disciples remember that the speedy conquests they made in the nineteenth century would have been impossible but for Lavoisier.

About this period, an Englishman and an Italian foresaw the two great mechanical powers which were soon to rule the world: steam and electricity.

In 1790, Galvani (1737-1798) in Bologna discovered—though he understood it but imperfectly—the mysterious force which, a few years afterwards in the hands of his fellow-countryman, Volta, was given to the world as the galvanic battery, and James Watt methodically constructed steam engines which, indeed, Denis Papin had already conceived and even made sixty-five years previously.

The eighteenth century ended gloriously. America was free. The Bastille was razed to the ground. Matter was soon to become subservient to the mind of man.

XIII

THE FRENCH REVOLUTION

NAPOLEON (1789-1815)

DURING the following twenty-five years, from July 14, 1789, to June 18, 1815—from the capture of the Bastille to the battle of Waterloo—the history of Europe was closely linked with that of France. Never before, in the space of a quarter of a century, had there been a more profound revolution in the world of matter, a more precipitate evolution in the world of thought. Within this short space of time, age-long institutions crumbled to the dust, while hitherto undreamt-of ideas filled the air. The notion of the homeland, or patriotism, awoke to birth among the nations, that of individual worth appeared among the people everywhere. Upon an old world was being erected a new one, a world which even in these days is continually growing and changing.

After the capture of the Bastille, the fever of independence took possession of the French as a people. Revolution stalked through the land; no longer could anything arrest its onward march.

On the famous night of the 4th of August, the "Constituante" solemnly abolished all so-called feudal privileges. These were sacrificed

both by the nobles and by the clergy on the "altar of patriotism".

Some time afterwards, the "Constituante" voted the Declaration of the Rights of Man.

Before long, the entire monarchical edifice of old disappeared. Louis the Sixteenth, feeble and incompetent, was powerless to arrest this great development in the direction of a loosening of bonds. Such revolutions, however, do not come about without provoking violence and brutality. The blind and passionate fury of the popular party was unleashed, culminating in what was called the Terror (1793), during which the most frightful legal crimes were committed. On the other hand, the sovereigns of Europe, to whom Louis the Sixteenth secretly and treacherously made pressing appeals for help, leagued together against France.

In her enthusiasm for her new-born freedom, France summoned to arms all the youth of the nation in defence of her rights. After numerous vicissitudes, the national armies proved victorious. The Republic was proclaimed, and Louis the Sixteenth perished on the scaffold. Peace was concluded at Bâle on the 5th of April, 1795. The young Republic was recognized by all the Governments of Europe, with the exception of England and Austria. She had led France to her natural frontiers, the Rhine, the Alps, and the Pyrenees, which ten centuries of monarchy had

been unable to give her. The people of Belgium and the Rhine, subject to the new French laws, joyfully agreed to form part of a just and powerful country. In Italy and Germany the French were regarded as liberators.

Between 1795 and the treaties of 1815, what crimes and misdeeds were destined to be perpetrated!

The Convention had the right to dissolve with shouts of *Vive la République* (October 26, 1796). It had triumphed over the most frightful perils, but it had saved France.

Its work was not simply resistance to dissension and victory over coalitions. Its monuments were great and enduring. All modern legislation including Napoleon's Civil Code had its beginnings in the Convention. It decreed compulsory education, instituted the Museum of Natural History, the *École Normale*, the *École Polytechnique*, the *Institut*, the *Bureau des Longitudes*, the *Archives Nationales*, and the *Musée du Louvre*. It abolished the old weights and measures and set up that splendid metric system, a new instrument which substituted order for confusion, by imposing at the beginning of all human knowledge what is in very truth an international scientific language.

By the sale of the national wealth (the lands of the Church, the clergy, and the *émigrés*) it changed a nation of proletarians into one of land-

owners. It is mainly since the Revolution that the soil of France, more than that of any other country, has been split up and parcelled out.

Unfortunately, instead of seeking peace, the French engaged upon bellicose enterprises; they were led to these wars of conquest by a great man whom they literally worshipped, and to whom they unreservedly gave up their gold and their very lives. This was Napoleon Bonaparte, a man whose dazzling and almost superhuman genius was disastrous not only to France but to the whole world.

In this little book it is impossible to give even the briefest account of Napoleon's glorious—though even more heart-rending than glorious—story.

One thing however must be remembered: a nation should never hand itself over to a master. Any master, however great a genius he may be, is but human, subject even more than other men to aberration and folly when there is nothing to oppose his will. Remember, too, a fact which all history proves, that conquerors always end by being conquered in their turn. However great and grand their empire, it is a fragile and unstable one, and its fall is only the more disastrous in proportion to its former splendour and triumph.

At first Napoleon won victory after victory in Italy. On the eighteenth Brumaire (November 9, 1799), profiting by the universal admiration

bestowed upon him, he overthrew the Government of the Republic and caused himself to be appointed first consul, i.e. absolute sovereign. Three years afterwards, he proclaimed himself emperor.

And he waged war in every direction: against England, against Russia, against Prussia, and against Austria. His victories were brilliant and decisive (Jena, Austerlitz). No longer did he recognize any limits to his power. He created kingdoms for his brothers, giving Spain to his brother Joseph, Holland to Louis, and Westphalia to Jérôme.

In 1809, after the victory of Wagram, he found himself on the loftiest peak of glory and power. He married the daughter of the Emperor of Austria. The vast French empire seemed invulnerable.

When nothing, however, opposes the ambition of a conqueror, his downfall is inevitable. The war against Russia, in which Napoleon lost his immense army, was speedily followed by other disasters, such as the battle of Leipzig, in 1813. Then Prussia, Austria, Spain, and England entered into a coalition against Napoleon. France was invaded. Paris was taken and Napoleon compelled to abdicate in April 1814. Louis the Eighteenth returned as king of France, and the country was reduced to her former frontiers.

After a year's exile on the island of Elba,

Napoleon succeeded in returning to France and was once more acclaimed emperor. He was finally, however, overcome at Waterloo and exiled to St. Helena, where he died five years afterwards, on the 5th of May, 1821.

Such was the fate of this extraordinary man, towards whom posterity has been wonderfully indulgent. All the same, children should be taught that Napoleon, by reason of his pride and arrogance, inflicted the most terrible disasters upon France and upon the whole of Europe.

Because of Napoleon, the régime of freedom which the Revolution had intended to give to the world was put back for sixty years; Europe, compelled to think of nothing but war, had to adopt so grievous a military system that she is even now crushed beneath the burden of monstrous taxes, and even more monstrous armies. Through him, the evolution of the nations, instead of proceeding along the lines of peace, brotherhood, and independence, has advanced along those of war, hatred, and bondage, while in a space of fifteen years, ten million men, bold, courageous, and strong, perished in the prime of their youth.

Because of Napoleon and of him alone, France was ruined, dismembered, and humiliated, twice violated by insolent and victorious armies. She lost her natural frontiers, which the Republic had given to her. From being beloved by the

nations, she became execrated by them. And yet, she had no right to pity herself; in Napoleon, she received what she deserved. No sooner did he appear than she flung herself at his feet.

Meditate and reflect upon this pitiable story, and learn from it to detest wars and conquerors.

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During this blood-stained period from 1789 to 1815, science made notable progress. Laplace established the theory of celestial mechanics. Volta discovered dynamical electricity (1800); Malus, Arago, and Biot discovered the polarization of light (1809-1815). The genius-inspired conceptions of Lavoisier led chemists to discover new bodies. Biology was transformed by the investigations of Lamarck, Cuvier, and Bichat.

This was the great—and perhaps the only—literary epoch of Germany. Schiller, and more especially Goethe, dominate the whole of German literature. Goethe (1749-1832), of lucid mind and serene genius who, by the purity, the harmony, and the correctness of his style gave the German language its ultimate and classic form, was supreme in every phase. Like Voltaire, he was an Encyclopædist, making no distinction between poetry and his beloved science—science to which he was as passionately devoted as he was to art.

About this time, Germany gave the world a

philosopher, Immanuel Kant (1724-1804), whose profound writings defined the conditions of the moral law. He took the idea of duty, the categorical imperative ("Act as if the maxim of thy will were to become, by thy adopting it, a universal law of nature") as the basis of every philosophical conception of man and the universe. This wise man, who had seen so much of the horrors of war, conceived the idea of an enduring peace amongst men, nursing the illusion that some day they would be less foolish.

Alas! Human folly does not die in a moment. Doubtless men will still shed a great deal of blood; but perhaps they will end by discovering that all this pain and suffering is fruitless, and that men have something better to do than to kill one another.

XIV

THE NINETEENTH CENTURY

THE great task of the nineteenth century was the development of science.

From the social and political point of view, this constituted the reaction against the treatise of 1815, i.e. against absolute monarchy.

The various human races continued to spread over the surface of the globe. The history of the world could no longer be confined to Europe; it extended to the other continents.

In Asia, ten times larger than Europe, the religions of Buddhism, Brahmanism, and Islam numbered about eight hundred millions of followers, i.e. more than all the Christians throughout the world.

In China, Indo-China, and Japan, with more than five hundred millions of inhabitants, the yellow people are of an entirely different race from the white (European) and the black (African).

Indo-China is to a large extent under French rule.

Japan, whose history was for long linked with that of China, evolved very rapidly after 1865, and has become completely initiated into European civilization, so that she is now a naval and military power comparable in every respect with the greatest of the Western Powers.

China is the most extensive of all human agglomerations. Her civilization is very ancient. She has largely remained unmoved by happenings in other parts of the world. The Great Wall of China was intended to guard her against foreign invasion. This protecting rampart is almost a symbol, for China is unwilling to accept anything from the civilization of the West. But little is known of her history. She is torn by anarchy, and Europeans are acquainted with scarcely more than the seaports of this vast territory.

India is subject to British rule. This rule, however, like that of France over Indo-China, is a very fragile one, for the Hindus and the Indo-Chinese are two hundred times as numerous as their masters, and it is probable that, within the more or less immediate future, these peoples, so different from ourselves in customs, religion, and tongue, will insist on governing themselves. Notwithstanding this, England succeeded in bringing order and peace into the great peninsula of Hindustan.

Siberia is wholly Russian. Her population is very small. The country is vast and some of it is very fertile, though for the most part the land, because of its cold and inhospitable climate, is not interesting except for its mines and forests. The Trans-Siberian Railway connects Moscow with Vladivostok on the Pacific Ocean.

During the nineteenth century, Africa experienced even more radical transformations than Asia.

After many prolonged struggles, Northern Africa (Algeria and Tunisia) was conquered by France.

Algeria was colonized as well as conquered. From the outset of hostilities, land was conceded to emigrants. There were twenty thousand European colonists in 1836, one hundred thousand in 1848, and six hundred thousand in 1925. Like the soldiers of ancient Rome, the French soldiers built roads and villages and set up military colonies, centres of population and culture. Northern Africa, once so fertile though subsequently devastated by Turkish rule, has become a rich territory, agricultural and vine-producing. At a later date, when the Third Republic added Tunisia and Morocco to Algeria, a great Franco-Arab empire was founded, the origin of which dated from the capture of Algiers in June 1830.

South Africa, originally colonized by the Dutch, became in 1815 an English possession (Cape of Good Hope). With indomitable perseverance, the British expanded this colony beyond all conception. They pushed on to the Transvaal, which has become enormously rich by reason of its gold-mines. More recently they made their way to the Great Lakes, the source of the Nile, and now occupy a vast and fertile

region, abounding in splendid possibilities. To the west, Belgium and France possess immense uncultivated stretches of land, the French and the Belgian Congo. Of the Portuguese rule there remains scarcely anything but ruins and a scanty population.

Because of their feeble intellectual capacity and their inability to initiate things, the African negroes have had to give way to the Europeans everywhere. But they are not very numerous and are weak and divided amongst themselves. Whereas in Asia the rivalry between the yellow and the white races assumes a threatening aspect for the latter, in Africa the supremacy of the black race is not dreaded at all.

Egypt, the most fertile land on the surface of the globe, succeeded about the year 1840 in freeing herself from the tyranny of the Turks. As though her destiny, however, were to be a subject people, she was placed under a British protectorate.

In Egypt, the life work of a single man did more than gold or armaments in furthering the progress of the world. The tenacity of purpose manifested by Ferdinand de Lesseps was a proof of his genius. He boldly conceived and carried out a plan opposed bitterly by engineers and diplomatists alike, who at first declared it impossible, and then, if it should prove to be possible, disastrous in its effects. Africa was united

to Asia by a stretch of sand about twenty-eight miles in width, which prevented the Mediterranean from flowing into the Red Sea and the Indian Ocean. The problem consisted in digging through this sand a canal wide and deep enough to enable large vessels to navigate it. The enterprise succeeded, bringing wealth to Egypt, England, France, and all the nations of Europe. The greatest of all civilizing exploits are those that enrich all peoples without impoverishing any.

In the course of the nineteenth century, the Americas became powerful by reason of their intensive development.

South and Central America, where the Spanish language is spoken, with the exception of Portuguese-speaking Brazil, freed themselves from Spanish rule. These young republics, daily increasing in population and in prosperity, won their independence. Bolivar, a man of considerable energy, incited the colonists against the capital, and finally gained the upper hand. Chili, Columbia, Peru, Mexico, and the Argentine became independent republics (1810-1824).

Thus crumbled away in the New World the mighty empire of Charles the Fifth. Spain, however, may find consolation for this apparent defeat, for she succeeded in imposing her language, customs, and race on a vast continent with a magnificent future, a continent which will play an important rôle in the civilization of to-morrow.

Brazil also separated from Portugal in 1820. At first she was governed by a wise emperor, but after a long reign Don Pedro was forced to abdicate and Brazil became a republic.

Quite apart from the development of Central and South America, North America became so wealthy and important that the United States are now the greatest Power in the world.

Three-quarters of a century, the span of a single human life, had elapsed since the War of Independence, and in these seventy-five years the opulence and might of the United States had increased amazingly, far surpassing the dreams and aspirations of Franklin and Washington. In 1860, the great Republic, more extensive than the whole of Europe, had a population of twenty-eight millions. The present population is one hundred and twenty-five millions.

This rapid growth and expansion of a nation is unexampled in the history of the world.

There are several causes that may explain it; first and foremost, the dauntless energy and sterling character of the founders. They gave evidence of such boldness and foresight that success was assured. Proof alike against corruption and fatigue, they resolutely undertook the colonization of territories with whose shores alone they were at first acquainted. Although their constitution was anything but perfect, they had the wisdom to keep it intact and to respect it,

without injuring or destroying it by inexpedient discussions or grand strokes of State policy. They had the good fortune not to be shackled by the outworn prejudices which paralyse the Old World. Theirs was a federal government, ensuring power and independence as well as order and freedom.

The American soil, too, varies in its splendid fertility. The North produces corn, timber, and furs; the South, vineyards and maize, fruit and cotton. Everywhere are rich mines, yielding coal, petrol, gold, copper, and lead.

Finally, European immigration every week supplied the new continent with thousands of young men, healthy and enterprising, enamoured of new ideas; hard-working youths destined to become fervent Americans and whose children were never to know the land of their fathers.

A series of annexations still further increased the vast territory of the United States of 1783. Louisiana was purchased from the French; Alaska from the Russians, and Florida from Spain. Texas, California, and New Mexico were taken from Mexico. The Philippines, Cuba, and Panama, although nominally independent republics, are also now amenable to the United States.

The continent was torn by civil war during the years 1861 to 1865. The North wished to abolish slavery; the South to retain it. After severe fighting, the South was defeated. Peace

then reigned throughout the great Republic and slavery was abolished.

In the recent terrible four years' war, from 1914 to 1918, waged by the folly of European countries, the Americans intervened, with decisive results, although by victory they acquired no new territory. But whilst Europe lay impoverished and ruined, America became enriched beyond all imagination, the result being that her wealth is now ten times as great as that of the whole of Europe.

At the other side of the world, Australia was developing rapidly. At first, colonists were slow in taking possession of this very arid continent. On the discovery of gold-mines, however, their numbers increased, and now it is a great land, extremely democratic, although monarchical, since both Australians and New Zealanders are British subjects. At all events, as in the case of Canada and the Transvaal, England has given her Australian colonies practically complete independence. The Dominions are almost sovereign republics.

Europe also has increased her population in considerable—though far less—proportions.

During the second half of the nineteenth century, the absolute increase of the inhabitants of the globe was nearly five hundred millions of

human beings. The population of the earth, which in 1925 was two thousand millions, will therefore in all probability—if no social or other cataclysm takes place—be nearly three thousand millions in a century from now. This enormous increase will assuredly bring about changes which it is impossible to foresee in the conditions of human life.

I can do no more than briefly mention the wars, revolutions, and upheavals that made up the complex history of Europe during the last century. In your class books you will find detailed accounts of these events, especially in so far as your own country is concerned.

What I wish to emphasize is the progress we owe to science and industry, though here also but few details can be given.

Revolutions and wars have finally culminated in the independence of individuals as well as of nations.

Greece freed herself from the sinister rule of the Turk. Russia, England, and France combined in support of the Greek revolution. At the battle of Navarino, in October 1827, the Turkish fleet was destroyed and Greece became an autonomous kingdom.

After a short war in 1830, Belgium seceded from Holland and became an independent kingdom.

Poland was not so fortunate. Up to the time of the Great War she was subjected to three dominations, almost equally tyrannical: Prussia, Austria, and Russia. After suffering martyrdom for over a century, she became an autonomous nation in 1918. The heroic Poles, stoutly adhering to their national language, their religion, and glorious traditions, prolonged the struggle for a century before finally winning their freedom.

Italy, formerly divided into various small states, is now fortunately a single nation—no longer a geographical expression. In the war of 1859, France helped to free her from the Austrian yoke and from her wretched little principalities. All who speak the beautiful Italian language are now one. The final trace of the harsh Austrian domination disappeared in 1918, and Trieste was given back to Italy.

In the Balkans, Roumania is now independent, as also is Servia. As was right and legitimate, Roumania has had restored to her the lands whose inhabitants speak the Roumanian tongue: Transylvania and Bessarabia.

And so, notwithstanding the horrors of the Great War, ever since the year 1918 the nations have asserted their just national independence: Greece and Poland, Italy and Roumania, have emancipated their citizens, so that at the present time no peoples are slaves, as was the case after the treaties of 1815. In spite of its crimes and

its shortcomings, the nineteenth century (1815-1918) reached one magnificent result: the autonomy of the nations.

Liberal and democratic ideas, which the odious treaties of 1815 seemed almost to have annihilated, have transformed the world. And it was in France, mainly, that they originated. The French Revolution of 1789 began, and those of 1830 and 1848 continued the transformation.

In July 1830, the Government of Charles the Tenth was overthrown by an insurrection. After the three glorious days of July 1830, the parliamentary system succeeded that of an autocratic monarchy.

In February 1848 a revolutionary thrill ran throughout Europe. The peoples of Austria, Prussia, and Italy rose in their masses, hoping to liberate themselves from their bonds. Despotism, however, supported by military force, finding that its adversaries were divided and uncertain, after a three years' struggle proved victorious. France stupidly set up a master over herself in the person of Napoleon the Third. Germany, Poland, and Italy fell once again beneath the yoke, after a series of cruelly suppressed revolts. In 1848 the peoples rose in their might and marched to independence; three years later they were defeated and again compelled to submit!

Meanwhile ideas of liberation and freedom progressed apace.

First, there was free trade.

A great Englishman, Richard Cobden (1804-1865) was one of the first to see (a very simple matter) that to impose a duty upon corn was to make bread dearer. He saw (a very simple matter) that to put a duty upon foreign goods was to make living a more costly matter for all, to favour a dozen producers to the detriment of a hundred thousand consumers. He saw (also a very simple matter) that it was in the interests of a country to sell its coal and its manufactured articles for the purchasing of corn, instead of painfully attempting to produce bad corn. The conclusion he reached was that all barriers must be flung wide open for the free export of home produce and the free import of foreign produce.

And so Cobden stood for free trade, i.e. cheap living, as against protection, i.e. dear living.

England has remained for the most part faithful to the great principle of free trade, whereas all other countries, especially America, alas, maintain a system of protection which is demoralizing and impoverishing.

The development of social ideas, of the principle of equality, has made amazing progress. Universal suffrage at elections, regarded in 1845 as a utopian dream, has been adopted in almost all countries. Even women—a thing absolutely

just and legitimate—possess the right to vote. Universal suffrage is now everywhere legal, except in Asia (China and Russia).

The social state has become increasingly democratic. Throughout America and Europe, the male citizens of each country possess the right to vote; they may exercise their influence upon the destiny of their land. Parliaments—generally an Upper and a Lower House—control the actions of the Government which needs their support for the imposition of taxes.

A new class, which scarcely existed previous to 1830, has gradually come into being—the working class. It grows daily in numbers and in influence. The peasants abandon the country-side in favour of town life, the result being that the towns, especially the large cities, expand immoderately at the expense of agricultural villages which (relatively) become depopulated.

From 1850 to 1870 Europe was rent by stupid wars: the Italian war (1859); the Russian war (1865); the war of the Danish duchies (1865), terminating in the battle of Sadowa (Königgrätz) in 1866 and the military leadership of Prussia.

The most stupid of all these wars, however, was that of 1870–1871, caused by the absurd folly of Napoleon the Third and the perfidious cunning of Bismarck.

The French army was defeated at Sedan and

Napoleon the Third taken prisoner. The French Republic was proclaimed and, a few months afterwards, the victorious Prussians entered Paris. Peace was signed at Frankfort. In accordance with this odious treaty, Alsace-Lorraine, notwithstanding its determination to be French, was ceded to Germany. This signal injustice was really the underlying cause of the late world war, i.e. of the direst misfortune that for centuries past has afflicted the civilized world.

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Thirty years after the Franco-Prussian war, there took place an event of supreme importance for the well-being of the world. From the most remote antiquity, men had looked upon war as a terrible though inevitable evil. It requires no superior intellect to conceive of a powerful sovereign tribunal for settling pacifically the quarrels and differences between peoples. Leibniz, the abbé of Saint-Pierre (1813), and the philosopher Kant both had visions of this supreme Court of Justice.

International Peace Congresses (1848-1897) and Peace Societies in various countries maintained in vigorous activity this fertile idea. The Governments, however, did not deign to pay the slightest attention to it, and popular approval, unfortunately directed by a venal and shortsighted Press, gave it no support whatsoever.

On the 1st of August, 1898, Nicholas the Second, Czar of Russia, summoned a meeting at The Hague of an international conference for the "triumph of the conception of universal peace over the elements of disturbance and discord".

He recognized that war was a scourge, and armed peace a crushing burden upon the nations. His imperial proclamation confirmed the dreams of the utopians.

A year afterwards, the utopia became a reality. On the 18th of May, 1899, in the tranquil city of The Hague, seventy-six diplomatists and lawyers, the most eminent of all lands, solemnly met together, constituting the greatest moral force hitherto known in the world: a supreme Court of Arbitration with its official headquarters at The Hague, and before which any State, great or small, without having recourse to arms, if it looked upon itself as aggrieved by another State, would be able to set forth its case, just as would a private individual before a civilian court of justice.

Neither the first nor the second Conference at The Hague (1905) decided upon reduction of armaments or compulsory arbitration. Not in the space of a few years, nor with a stroke of the pen, can the ancient and imposing structure of our bellicose constitution be overthrown by a group of lawyers, philanthropists, and scholars. It needed the cataclysm of 1914 and the authority

of President Wilson to effect a real beginning of international justice (Treaty of Locarno, 1925).

The institution of a League of Nations, with compulsory arbitration in all cases of dispute and with enforcement of compulsion, is manifestly the greatest progress mankind has known for ages past. One must be very blind indeed not to see that war, in all its aspects, even in the guise of an armed peace, has ever been man's most formidable enemy. Anarchy amongst individuals, which civilized States have suppressed by means of a police and legal organization, is supposed to hold sway between the States themselves, for to lay claim to sovereign rule, to assume the right to evade punishment for one's misdeeds, to set up one's will, one's fancies, or appetites in the place of justice, is nothing but anarchy, pure and simple. This international anarchy, monstrous from the standpoint of morality, is absurd from the standpoint of human interests rightly understood. Evidently a nation, however powerful it may be, will always find it advantageous to look upon law and right as a refuge against the evil and injustice of its neighbours.

At the present time, our vision being distorted by contemporary events as well as by the memory of a very recent past, we cannot yet very well gauge how immense has been this progress. In days to come, however, we shall acknowledge

that universal compulsory arbitration coincided with the reign of justice, i.e. of civilization. Up to the Great War, the world had been living in a state of barbarism.

Painful indeed is it to reflect that, for the understanding of these purely elementary truths, ten millions of young men were called upon to give up their lives.

The nineteenth century was fruitful mainly in industry and the sciences; it was also fruitful, though in lesser degree, in art and literature.

In France especially the literary movement was a brilliant one. A second Renaissance produced original, learned, and stirring works, so that the first half of that century may be compared, in the matter of literary fecundity and invention, with the *grand siècle* of Louis the Fourteenth, which produced so many masterpieces.

First and foremost we have Victor Hugo (1802-1885), one of the most illustrious names in the whole of literature. In his wealth of style, his boldness of imagery, his knowledge of harmony and rhythm, his sublimity of thought, he raised French poetry to undreamt-of heights.

Nor is Victor Hugo alone in this splendid literary epoch. Chateaubriand (1769-1848), the famous precursor of Victor Hugo, was really the father of Romanticism.

Never before had French thought risen to such heights. Goethe had presumed to assert that the French tongue was ill-suited to poetry. This was disproved by Victor Hugo, and by his contemporaries—almost rivals in genius—A. de Lamartine (1790-1869), A. de Vigny (1799-1863), Alfred de Musset (1810-1857), and Théophile Gautier (1811-1872). These poets have left us such charming and virile works that French literature, already unique in the modern world with Racine and Molière, Pascal and La Fontaine, became, after the brilliant period of 1830, far superior to all other literature.

History was enriched with the works of Augustin Thierry, Michelet, Renan, and Taine.

Fiction assumed an unexpected development through the English novelists, Walter Scott and Charles Dickens; the Russian novelists, Dostoevski, Tourgueneff, and Tolstoy; the French novelists, Balzac, Eugène Sue, Alexandre Dumas, Flaubert, Victor Hugo, Anatole France. In these days, it is the novel that holds the first place in literature.

In the northern countries of Europe, the plays of Ibsen the Norwegian—a strange blend of mysticism and realism—created new forms of expression. Still, the plays of French writers, of Scribe, Alexandre Dumas father and son, Sardou, Victor Hugo, and Edmond Rostand, held prominent rank.

Music—more especially German music—became a marvellous force, capable perhaps, more than any other human creation, of moving and delighting the soul of man.

The true founders of modern music were Mozart (1756–1791) and Beethoven (1770–1827). The latter, in wealth of invention and subtle profundity of rhythm, is indeed the master musician, a poet incomparable. In the first half of the nineteenth century, Germany was rich in great musicians: Weber (1786–1826), Schubert (1797–1828), Mendelssohn (1809–1847), Schumann (1810–1856). The most brilliant epoch of French poetry thus happened to be contemporary with that of German music.

Another great name may be quoted, that of Richard Wagner (1813–1883). After the wonderful charm and sensibility of Mozart and Beethoven, it would appear as though music could make no further progress. Nevertheless, Wagner drew from it a power hitherto unsuspected, by an intimate blend of drama with symphony.

* * * * *

It was chiefly, however, in the sciences—and in industry, the daughter of science—that the incomparable greatness of the nineteenth century was manifested.

First, there was the harnessing of electricity

to man's use. Many nations contributed thereto. The Italians Galvani and Volta discovered dynamic electricity (1788-1801). Oersted the Dane (1777-1851) demonstrated in 1827 that the electrical current turns aside a magnetic needle. André Marie Ampère (1775-1836) generalized this observation, worked out the mathematical law governing it, and discovered induction (1828). Faraday the Englishman (1794-1867) set forth the principle of electro-dynamical machines. Gauss, the German mathematician, utilizing Ampère's discovery, gave the world the electric telegraph (1833). William Thomson (Lord Kelvin), the British physicist, constructed an apparatus which made submarine telegraphy possible. Heinrich Hertz the German proved that there was analogy between electrical forces and the vibrations of light. This was the starting-point of that marvellous discovery, wireless telegraphy, to which important contributions have been made by Branly, by Sir Oliver Lodge, and above all by Marconi.

A potent example of what can be effected by scientific solidarity! Have not Volta and Ampère, Faraday and Hertz, rendered greater services to their respective countries, as well as to their fellow-humans throughout the world, than if they had fought one another, weapon in hand, in the train of some ambitious conqueror?

In general physics, the universal principle of

thermo-dynamics, a principle governing all the laws of matter, was established by Sadi Carnot (1796-1832). Two Germans, Mayer (1814-1878) and Helmholtz (1821-1894), and the Englishman Joule (1818-1889), saw and investigated the consequences devolving therefrom.

Countless were the discoveries in chemistry. The atomic theory was definitely and finally established. Berthelot worked out bold and fruitful syntheses. Pierre Curie discovered radium, and Röntgen the X-rays which make it possible to photograph metals even when covered by opaque bodies.

In biology, Schwann showed that the tissues of living beings are formed by elementary organisms which he called cells (the cell theory).

Darwin (1809-1882), in an incomparable work entitled *The Origin of Species* (1859), formulated a general theory—foreshadowed by Lamarck—on the descent of man. Relying on precise and definite observations, he proved that animal or vegetable species are incessantly undergoing transformation and that they perpetuate these changes by heredity.

Claude Bernard (1813-1878) endowed physiology with the results of the valuable experiments he made on the pancreatic juice, the glycogenic function of the liver, the colouring matter of the blood, the vaso-motor and the glandular nerves.

The art of healing had remained almost stationary when there appeared a man, Louis Pasteur (1822-1895), whose genius opened up unknown and boundless tracks and inspired thousands and thousands of memorable works. Through him the medical sciences were reconstructed on absolutely new bases. In the entire history of science, it would be difficult to find so radical a revival as that which took place in medicine between 1865 and 1895. Thirty years sufficed to reveal a world of facts hitherto altogether unknown. Medicine before the days of Pasteur bore no resemblance to medicine after that time.

From 1866 to 1882, discoveries followed one another. This was the heroic age of the healing art. Pasteur proved that small vegetable organisms, microbes, of a parasitic nature and the causes of various maladies, may be isolated and inseminated in sterile though nutritive liquids, which have thus become a favourable culture fluid. The infectious germ vegetates in the nutritive liquids like corn growing in a field, and then, inoculated into an animal, gives it the disease of which it is the essential agent.

More than this, it is possible to weaken or attenuate the germs, to make them both sufficiently harmless not to entail death, and sufficiently active to confer a slight malady and to give immunity.

By suppressing the approach of germs, it is also possible to make all operations harmless, however daring they be (asepsis or antisepsis).

Of the edifice laboriously constructed by the doctors of past times, nothing any longer remains but a few clinical descriptions. Illness, which once was a kind of vaporous and imperceptible mystery, a maleficent and capricious mythological deity, a destroying angel striking down the victims his idle fancy had chosen, has become an objective reality that can be seen—a little being, a microbe which possesses form, habits, conditions of existence with which we are learning to become acquainted.

And so we find that science everywhere methodically carries on her work, without concerning herself with stupid political or national rivalries. By the wealth of her discoveries, the greatness of her hypotheses, and the importance of her applications, she assumes control of the civilized world. The genius of scientists becomes the light that illumines mankind. But, alas, men in their blindness fail to attribute to science, their benefactress, the credit due to her. Millions are spent in preparations for war; while but paltry subsidies are apportioned to scientific research. How strange and lamentable the contrast! Death-dealing agencies are everywhere; there is no room for that which advances life itself.

The reason why we regard this latter phase of human history, from 1789 to 1915, as a scientific period, is because the advantages bestowed by the sciences, especially the medical, cast their brilliance over the whole of the nineteenth century. Through the discoveries of Pasteur, of Villemin and Lister, the conditions of human existence have been transformed and ameliorated far more than by warlike and political disturbances. War and politics have sown the seeds of hatred, distress, and grief. Science has scattered her benefits throughout the world, giving these modern times of ours a greatness beyond compare.

Science has created powerful industries and has changed the entire conditions of human life.

First and foremost came the invention of steam engines, made practicable by the extraction and utilization of coal, that powerful and docile force which serves every purpose. Ever since 1835, railways have been under construction all over the world, making possible rapid and safe intercommunication between the nations.

Men's constant, though unconscious, efforts have been directed to approaching closer to one another, to the strengthening of the bonds which unite human individualities, by diminishing—through greater rapidity of transport—the distance separating them. Railways have become an

element of the first importance in the lives of individuals and of nations alike.

The progress of transport by sea has been no less pronounced than by land. The steamship, the principle governing which Denis Papin had been unable to make his contemporaries understand, has become the most useful and familiar of realities. Everywhere—or almost everywhere—steamers have replaced sailing-vessels.

Mighty ships of sixty thousand horse-power or more have been built, floating towns capable of carrying thousands of persons on a single voyage, under extraordinary conditions of luxury, speed, and security. The Atlantic is crossed in less than five days. In less than a month it is possible to circumnavigate our little planet.

A new means of locomotion came into being about 1895—the motor-car. It is now to be seen everywhere.

Another marvellous invention is likely, even more than the railway and steam navigation, to overcome the obstacles which nature opposes to human relationships, and that is aviation and aerial navigation.

In 1783, Montgolfier, a Frenchman (1740–1810), discovered that a balloon containing hot air was capable of rising aloft by reason of the lightness of the dilated air with which it was inflated. A few months afterwards, Charles (1746–1823), a French electrician, conceived the idea

of replacing hot air by hydrogen, a gas lighter than air (December 1, 1783).

Ingenious investigators were perplexed by the problem of directing and guiding these aerostats, but finally it was solved. Now, speeds of considerably over sixty miles an hour can be obtained, enabling progress to be made even against strong winds. These immense airships, however, are inconvenient to handle. And so it is not by balloons, however vast and easy to steer, that rapid and easy transports will be effected, but rather by the flying machine, the most brilliant discovery of the age.

Notwithstanding various attempts—which were foolishly ridiculed—nothing definite had been realized when, in 1904, two Americans, Orville and Wilbur Wright, made a decisive experiment. They succeeded in rising from the ground in a screw-propelled machine. From either side of the motor stretched two great motionless wings which sustained the whole apparatus. Aviation had at last been discovered.

And so, with marvellous facility, this great artificial bird, a thousand times more powerful than the most robust of winged creatures, moves through space under the control of a human intellect. By this means it has been possible to attain to speeds of over three hundred and fifty miles an hour, to rise in the air to a height of over five miles. These are but the beginnings,

however, and more wonderful things are continually being recorded.

Although apparently for the purposes of warfare, it is really on behalf of peace that the builders of aeroplanes are working. Once certain technical difficulties have been solved, it will inevitably happen that flying machines, having become more manageable, will make international relations more simple, frequent, and rapid. Rivers, mountains, and precipices will no longer be interposed between the various nations, for atmospheric space knows no frontiers. Then, whether we like it or not, we shall see the end of the monstrous Custom-house system still in vogue—a system which divides and impoverishes the nations more than all the rest of our social follies combined.

It is not only in the transport of men and goods that science has effected miracles, it is also in the communication of ideas from mind to mind. The electric telegraph, which has found its way into the smallest villages and the most distant localities, transmits a thought, an event, a word to any part of the world in a few fractions of a second.

The benefits of electrical telegraphy have been still further increased by two surprising inventions: the telephone and wireless telegraphy. Science has accomplished a thing that is miraculous and almost fantastic: the power of enabling us to hear distinctly, with every gradation of tone, the voice of a person thousands of miles away.

As a result of all these wonders, human interchange has become rapid, easy, and intense. This, beyond the shadow of a doubt, is the characteristic trait of the present age. And so, in spite of their unjust aversion to anything approaching international organization, the various Governments have been compelled to create an International Bureau of Telegraphic Administrations (Berne, 1868) and an International Postal Union (Berne, 1874).

Thus slowly and laboriously, in spite of warfare, jealousy, and convention, or the spirit of routine, we have the verification of the prophecy of the great poet Lamartine: "*le monde en s' éclairant aspire à l'unité*" (the more we become enlightened, the more we aim after unity).

International congresses (scientific and social, industrial and technical), daily more numerous and important, are the living embodiment of this union of all the intellectuals everywhere to achieve the conquest of truth and dominion over matter.

And so, after the dissipation of effort—the only kind of effort that humanity has hitherto willed—we shall have community of effort. After division, there will be association. By means of so vast and world-wide a co-operation, perhaps there will emerge a society less barbarous, individuals less enslaved, a humanity more generous.

Science has, indeed, shown herself the mighty conqueror.

XV

THE FOUR YEARS WAR (1914-1918)

I HAVE now to speak to you of one of the saddest events in history that ever resulted from human folly; I refer to the great world war which piled ruin and countless evils upon the nations of Europe. It was Austria, supported by Germany, that called forth this awful disaster, by addressing to Servia an insulting ultimatum and beginning hostilities by the bombardment of Belgrade. Russia and France felt that they must intervene. If the two emperors of Austria and Germany wanted war, France and Russia did not want peace. In short, after the exchange of diplomatic and incoherent notes, war was declared, and as Germany, in violation of the strictest treaties and the right of nations, had invaded Belgium, Great Britain intervened in her turn, followed by Italy, Roumania, Turkey, Bulgaria, and the United States.

This was a world war, the most awful that mankind had hitherto experienced. It is impossible, however, in these few pages, to tell you of this barbarous and absurd—ininitely more absurd than barbarous—conflict, in which prodigies of valour were performed on both sides, all to no purpose.

Finally, victory remained with the Allies.

Austria, an irregular and heterogeneous blend of different nations, was rightly dismembered, and Germany was forced to sign at Versailles the peace treaty whereby Alsace-Lorraine was restored to France.

Ten millions of dead and fifteen millions of wounded chosen from amongst the bravest and finest youths of the nations—such was the cost of the war in human material. Financially it cost over sixteen billions of pounds, i.e. probably more gold than is to be found beneath the earth's surface. Commerce and industry were paralysed for many long years. Thousands of acres were devastated which once produced flourishing crops. Great towns and cities were reduced to utter ruin, as well as eight departments of France, including the most prosperous in the land. Servia, Poland, and Roumania were ravaged, pillaged, or dismembered, heaps of stones often being all that was left of large towns or small villages. And for four years the whole of mankind was living in a world of abuse and falsehood, horror and grief.

Such was the cost of this war!

And yet, notwithstanding this world-wide disaster, the Four Years War was destined to inaugurate a new order of things.

First, there followed the independence of hitherto subject nationalities. No longer would there be an enslaved Alsace-Lorraine, a dis-

membered Poland, a Bosnia, a Herzegovina, a Schleswig, a Slavonia, and a Bohemia subject to foreign tyranny.

And even now, can we say that we have reached the end of the horrors of militarism?

This savage and stupid folly of warfare, of which the present generation were the victims, represents the history of the past. The history of the future will be altogether different, if we will but profit from the lessons inflicted upon us by so grievous a past.

XVI

A RÉSUMÉ OF THIS RÉSUMÉ

To conclude, I will attempt, in a brief synthesis, to retrace the progress which, through countless adventures and events, has enabled man to transcend a state of savagery and attain to one of civilization.

During long, long ages, almost without any trace of his slow evolution persisting, man dimly fought for very life with the elements, disputing with wild beasts his daily food. All this period, of unknown duration, his intellect became sharpened and refined. Finally he invented a few rudimentary tools, discovered the art of making fire, of subjecting the dog to his own service, of cutting and polishing stones. He formed families and tribes, perhaps even nations, though as yet there was no historic past.

History began with the old civilizations of Egypt and Chaldea. Then stable societies came into being, with their own architectures and modes of writing, their own hierarchies, trades, and religions.

These vast Asiatic and Egyptian kingdoms, centres of the earliest world civilizations, were from the most distant antiquity subject to the curse of war.

From the outset of civilization, war has appeared

as the one supreme evil, causing the destruction of great and flourishing cities like Thebes, Nineveh, and Babylon.

Then along the shores of the Mediterranean, the Phœnicians and Cretans, and especially the Hellenic races, engaged in commerce, navigation, and exchanges of every kind. They invented a simple alphabet and an easy style of reading.

Soon Hellas monopolized all that constitutes the glory of the human mind. She attained the loftiest peaks of thought. Whilst the rest of the world remained plunged in dense barbarism, she produced such philosophers and poets, historians and sculptors, as the moderns have neither been able to surpass, nor even, perhaps, to equal. And yet she poured out her very life-blood in civil and foreign wars. A bellicose madness and fury dimmed her glorious genius and she expended all her ardour in an orgy of self-slaughter. To such an extent had anarchy and discord weakened her that the Romans had but to appear on the stage of war and carry off the victory.

Rome also stood for war, though in disciplined and organized form. Her wise and powerful institutions soon spread over the world, upon which she imposed peace after subjugating it by arms.

Greece had perished by anarchy. And Rome was destined to crumble away because of her

despotism, one of the forms assumed by anarchy. Degraded by servility to loathsome masters, she lost all her virile strength. Then the barbarians, hastening from all sides, sacked and plundered the Roman world, and replaced the noble Hellenic culture by a crude civilization which Christianity was not strong enough to prevent from assuming a wild and savage aspect. For eight centuries of darkness and ignorance, progress made but little headway. During this time, the Catholic Church was in the ascendant, all-powerful both with kings and with peoples, and, although still very barbarous, less so than the nations who obeyed her.

About the fifteenth century the human mind reasserted its sway.

The printing press enabled ideas to be promulgated. Universities sprang into being. Poets and philosophers, painters and historians reappeared. America was discovered. Human thought, which had slumbered so long, awoke. And human groupings formed themselves for the building up of nations. Soon a marvellous Renaissance was the result.

Human passions and errors, however, do not abdicate. For a century, frightful religious wars were waged. Europe was rent by two great Christian sects. Catholics and Protestants slew one another, hatred finding an outlet for itself in torrents of blood.

Then all the peoples submitted to the grievous yoke of monarchy. In the seventeenth and eighteenth centuries, France and Spain, Austria and Russia, Prussia and even England blindly obeyed the orders of their hereditary sovereigns, under whose command they engaged in fratricidal strife, winning, one after another, a puny military glory and a temporary leadership.

War almost ruined Spain, France, Austria, Prussia, and Russia. Through it, they experienced hours of distress during which their very existence as nations was on the point of disappearing.

At the end of the eighteenth century, a mighty spirit of independence passed over civilization, sweeping away the French monarchy and giving to the rest of the nations the idea of liberty, that noble daughter of science.

Then followed a sudden movement in the direction of liberation. Within a hundred years, social, industrial, and scientific progress advanced with mighty strides, and civilization made greater headway than it had done in a thousand years.

The whole of the nineteenth century represents no more than the magnificent and rapid, though incomplete, development of a dual conquest—the conquest of matter by science and that of freedom by enfranchised citizens. Events, however, came about so rapidly that the second half of the nineteenth century proved to be ten times more fruitful in results than did the first half.

Now we come to the twentieth century.

Almost at the dawn of this century, the old world was shattered by the most terrible convulsion in human history. After frightful massacres, the four years of fighting culminated in vast liberations. Absolute monarchies no longer exist. The nations, now more or less free, are self-governing. As freedom, however, includes the freedom to do evil, they may well hesitate between the two futures looming before them.

The one represents a continuation along the old track: division, injustice, and anarchy—the shedding of blood and the expenditure of treasure in order to win (or to lose) a few square miles of territory, to obtain (or to lose) a doubtful supremacy.

The other represents the policy of peace, concord, and union; respect for law, justice in place of warfare, order substituted for anarchy and conciliation for discord; along with the union of all individual or national efforts in order to overcome the misery and wretchedness inseparable from human life, to combat vice, backsliding and alcoholism, to dissipate soul-destroying ignorance, to cure diseases by strictly hygienic measures, to subject natural forces to our needs and necessities—in a word, to devote to science all that application, ingenuity, and energy which hitherto man, in his insensate folly, has devoted to war.

Then benefits like those with which science

has already endowed us, daily more and more wonderful and bounteous, will make their appearance.

Unity is all the more necessary because civilizations, when they remain apart, always end in ruin and decay. However brilliant they may have been, they cannot keep their light burning unless other torches contribute renewed youth to their declining years.

Science has given to men far beyond their dreams. As soon as they are willing to receive it, she will give them still more. For if, instead of snarling at one another like brutes, we are willing to combine, she will open up new horizons that have not yet appeared within our strictly limited range of vision.

It may well be that, by thus uniting in the most beneficial and glorious of human efforts, we shall succeed in exorcizing those two great and threatening evils: class strife and racial warfare.

* * * * *

The task of our age is a simple one: to give might to right, to remove might from that which is not right, and to substitute truth for error.

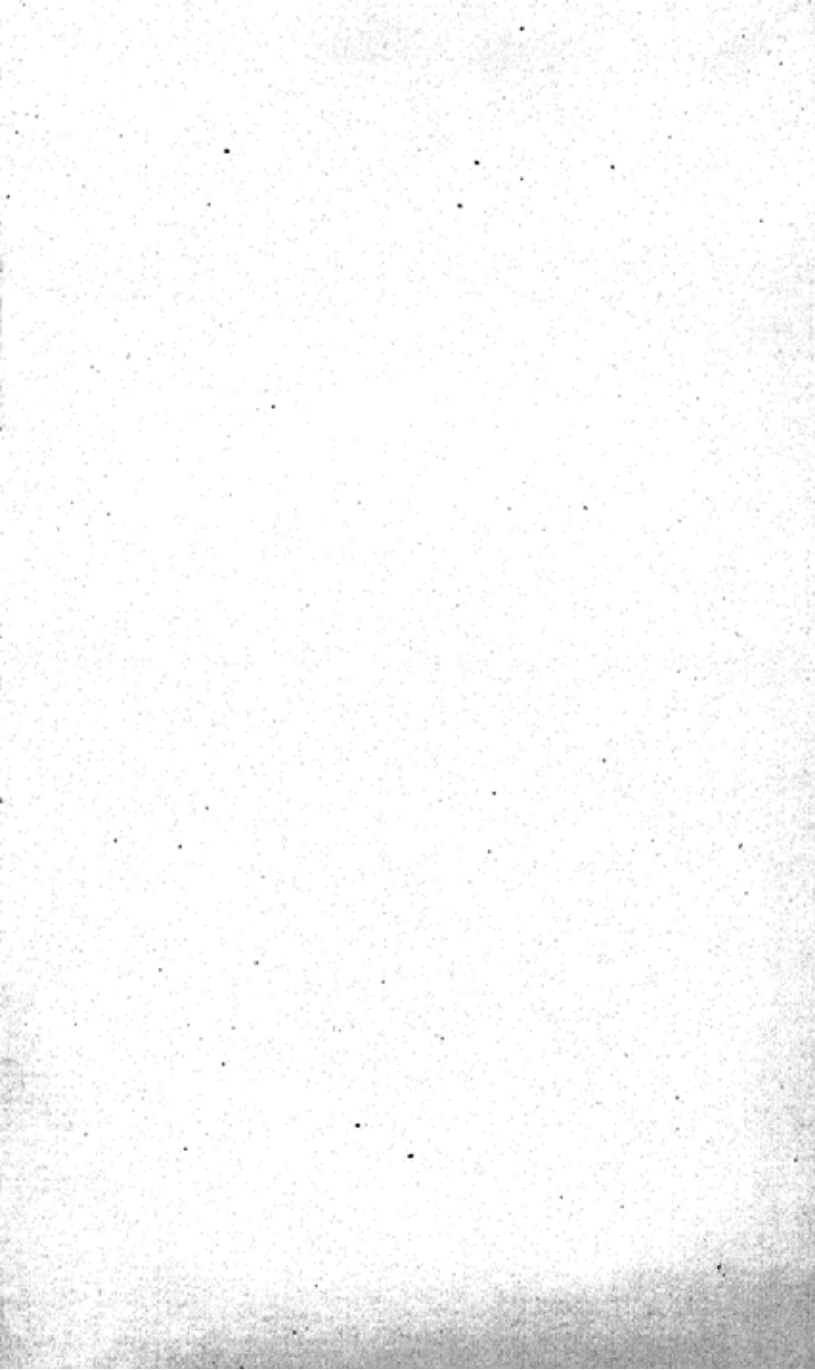
Science is the great emancipator, and it is towards her that we should all turn our eyes, whatever be our nation or race, whether great or small, young or old, rich or poor.

And if science is to hold sway, there must be unity amongst men, that is to say, PEACE.



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